

THE JOURNAL
OF THE
ANTHROPOLOGICAL INSTITUTE
OF
GREAT BRITAIN AND IRELAND.

FEBRUARY 10TH, 1891.

EDWARD B. TYLOR, Esq., D.C.L., F.R.S., *President, in the Chair.*

The Minutes of the last meeting were read and signed.

The following elections were announced:—

GEORGE REDWAY, Esq., of 57, Ludgate Hill, E.C.

MISS NINA F. LAYARD, of 11, Museum Street, Ipswich.

The following presents were announced, and thanks voted to the respective donors:—

FOR THE LIBRARY.

From SIR JOHN LUBBOCK.—*Beröringer mellem de finske og de baltiske litauisk-lettiske Sprog. En sproghistorisk Undersøgelse af Vilh. Thomsen.* 4to. Kobenhavn, 1890.

From the UNITED STATES NATIONAL MUSEUM.—*A Collection of Stone Implements from the District of Columbia.* By S. V. Proudft. 8vo. Washington, 1890.

— *Throwing-sticks in the National Museum.* By Otis T. Mason. 8vo. Washington, 1890.

— *A Study of the Eskimo Bows in the U.S. National Museum.* By John Murdoch. 8vo. Washington, 1890.

— *Basket-work of the North American Aborigines.* 8vo. Washington, 1890.

- From the GOVERNMENT OF NEW ZEALAND.—Statistics of the Colony of New Zealand for the year 1889. Fol. Wellington, 1890.
- From the SUPERINTENDENT OF CENSUS, U.S.A.—Census Bulletin. Nos. 16, 19. 4to. Washington, D.C., 1890.
- From GEORGE W. BLOXAM, Esq.—A Short Account of Further Bushman Material collected. By L. C. Lloyd. Fol. London, 1889.
- From the PUBLISHER.—Primitive Folk. By Elie Reclus. 8vo. London. Walter Scott.
- Crania Bohemica. von Mudr. Heinrich Matiegka. I. Theil. 8vo. Prag, 1891. Fr. Haerper.
- From MESSRS. KEGAN PAUL, TRENCH, TRÜBNER & Co.—The Antiquities of the State of Ohio. By Henry A. Shepherd. 4to. Cincinnati, 1890.
- From the AUTHOR.—Notes on a Finnish Boat, preserved in Edinburgh. By David MacRitchie. [From the Proceedings of the Society of Antiquaries of Scotland.]
- Formation des variétés Albinisme et Gauchissement. par G. de Mortillet. [Extrait des Bulletins de la Société d'Anthropologie de Paris, 1890.]
- Il terzo trocantere la fossa ipotrocanterica la cresta ipotrocanterica nel femore dell'uomo. Tesi di Laurea del Dottore Pietro Costa. [Estratto dall' Archivio per l'Antropologia e la Etnologia, 1890.]
- From CTE. A. MAHÉ DE LA BOURDONNAIS.—Mémoires historiques de B. F. Mahé de la Bourdonnais. 8vo. Paris, 1890.
- From the KAISERLICHE LEOPOLDINISCH-CAROLINISCHE DEUTSCHE AKADEMIE DER NATURFORSCHER.—Verhandlungen. Band liv.
- From the ACADEMIE DES SCIENCES DE CRACOVIE.—Bulletin International. 1890. Nr. 10.
- From the ROYAL COLLEGE OF PHYSICIANS, EDINBURGH.—Reports from the Laboratory. Vol. iii.
- From the ROYAL UNITED SERVICE INSTITUTION.—Journal. No. 156.
- From the K.K. NATURHISTORISCHES HofMUSEUM. Annalen. Separatabdruck aus Band v. Heft 4.
- From the SOCIÉTÉ ARCHÉOLOGIQUE, AGRAM.—Viestnik hrvatskoga Arkeologiškoga Društva. Godina xiii. Br. 1.
- From the ROYAL SCOTTISH GEOGRAPHICAL SOCIETY.—The Scottish Geographical Magazine. Vol. vii. No. 2.
- From the ROYAL SOCIETY.—Proceedings. No. 299.
- From the SOCIETY OF BIBLICAL ARCHÆOLOGY.—Proceedings. Vol. xiii. Part 7.
- From the ANTHROPOLOGISCHE GESELLSCHAFT, VIENNA.—Mittheilungen. Band xx. Heft 3 u. 4.
- From the ANTHROPOLOGICAL SOCIETY, WASHINGTON.—The American Anthropologist. Vol. iii. No. 4.
- From the SOCIETY OF ARTS.—Journal. Nos. 1991-1994.
- From the ROYAL STATISTICAL SOCIETY.—Journal. Vol. liii. Part 4.

- From the EDITOR.—Science. Nos. 413-417.
— American Antiquarian. Vol. xiii. No. 1.
— Nature. Nos. 1107-1110.
— Revue Scientifique. Tome xlvii. Nos. 3-6.
— The Monist. Vol. i. No. 2.
— Physique. Vol. i. No. 1.
— The Journal of Heredity. Vol. vi. No. 1.
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Mr. G. M. ATKINSON exhibited some sketches of horse ornaments, symbolic survivals.

Mr. MARTIN suggested that the "fish" on horse ornaments coming from Delhi were probably the arms of Oudh—on the gates of Lucknow the fish figures largely—and this ornament would probably prevail in Oudh, from whence it would be conveyed to neighbouring cities.

The PRESIDENT remarked on the great variety of pattern development disclosed by Mr. Atkinson's long and patient copying of a class of designs which would be generally thought of but little range. In his opinion the next step in utilising this material could be best taken by Mr. Atkinson endeavouring to arrange the whole series of drawings in such a way as to trace the possible development of each pattern from those preceding it, so as when possible to arrive in each case at the natural object originally represented.

Mr. LEWIS also joined in the discussion.

Mr. RAY read a paper on the People and Languages of New Ireland and the Admiralty Islands, upon which Dr. CODRINGTON made some remarks.

*Note on the PEOPLE and LANGUAGES of NEW IRELAND and
ADMIRALTY ISLANDS.*

By SIDNEY H. RAY.

(From letters of the Rev. R. H. RICKARD.)

THE vocabularies here given were sent to me last year by the Rev. R. H. Rickard, of the Wesleyan Mission in New Britain. They were collected by him at Nusa, on the northern extremity of New Ireland, and at Green Island, in the Admiralty Group, in December, 1886, during an excursion round the Bismarck Archipelago, made from the mission head-quarters at Kabakada in the Gazelle Peninsula, New Britain. Mr. Rickard has joined to these a short list of words from the Western end

of New Britain, opposite Huon Gulf, and for the sake of comparison I have added the equivalents in the two best known languages of the region, those of Raluana and Duke of York Island.

An account of the New Ireland natives was read before this Institute, in 1886, by Mr. A. J. Duffield, as a supplement to which I condense the following from Rev. R. H. Rickard's letters.

Nusa.—The people are nearly nude. The women wear an apron or leaf not larger than a leaf of the Australian gum tree, and long peaked hats made of pandanus leaves sewn together. The men blacken half only of the top and bottom row of their teeth, or in some instances half the top row and the opposite half of the lower. The men also shave parts of their heads, leaving various shaped locks—triangular, diamond shaped, &c. A chief's wife came on board the vessel *alone*, a thing which would never have taken place in New Britain, and which points to a low state of morals.

Fisher Islands and St. John's Island.—The people here are the same as at Nusa, speaking the same language and having the same customs. They live in large villages. All the natives of this district are notorious cannibals. In one place Mr. Rickard was assured that a tribe lived by fighting for any party who might hire them, the only payment sought being the bodies of the slain.

Faed Group.—These consist of two circular lagoons about four miles apart, with several islands, but only one group is inhabited. Coconut palms are abundant, but the population is small (about 200) and is fast dying out. The natives are light brown Polynesians, speaking a language allied to that of Lord Howe Islands and Stewart Islands. A Samoan could understand them in a very short time. The islanders are ruled by one man, and are in a very miserable condition, with small huts and untidy plantations.

Carteret Islands.—The people here are black Melanesians, speaking the language of Buka (Solomon Islands).¹ They are in as wretched a condition as the Faed Islanders.

In the Journal of the Institute for 1877 will be found a detailed account of the natives of the Admiralty Group by Mr. H. N. Moseley, the naturalist to the Challenger expedition, chiefly relating to D'Entrecasteaux Island and Wild Island. I extract the following from Mr. Rickard's letters:—

Admiralty Group:—"The men were quite nude, with long

¹ Buka Vocabularies are given by H. Zöller—"Petermann's Mitteilungen," 36 Band, 1890, p. 127; and by C. W. Woodford—"A Naturalist among the Head Hunters," p. 225.

combed hair, in which is carried a comb. They are of average height, none of them stout, with sharp Jewish countenances; their skin more coppery and bright than that of the New Britain natives. They were keen traders, the articles most in request being knives, carpenter's tools and beads. They gave in exchange flint-pointed daggers and spears, carved bowls, ornamented gourds, large clay cooking vessels, and other articles. In the island of Waikatu the houses were built on piles driven into the rock. Some of these piles were eighteen inches thick and about eight feet above the water. One house stood on thirty or forty piles, and was about fifty or sixty feet long, twenty feet wide, and ten feet high. At each end was a large shutter. A loft contained the inmate's household treasures, which consisted chiefly of bowls and clay pots filled with oil. The floor of the house was formed of the thick outer shell of a palm, and was reached by a ladder from the platform near the water.

"The canoes of these islands are built of strong timber, with a heavy but neat outrigger one side and a slanting platform on the other. They have a house on deck, and carry fire, food, and cooking utensils."

(A detailed account of these canoes, with diagrams, was given by Mr. Moseley, see "*Jour. Anthropol. Inst.*," vol. vi.)

While Mr. Rickard was at Waikatu one of the king's wives lay dead. The corpse was embalmed in oil, and after it had lain ten days the skull would be scraped and cleaned, the remainder of the body being buried.

The women wore grass petticoats, and seemed to have a good position among the men.

The government seemed to be in the hand of one chief, as in Fiji, and not as in New Britain. The men of the whole village received their food from the chief, and the houses were built collectively for the use of all, not as in New Britain, by a man and his wife alone. The chief's word was immediately obeyed. A boy wished to go away with Mr. Rickard's party, but the chief's refusal stopped him.

VOCABULARIES FROM NEW IRELAND, NEW BRITAIN, AND
ADMIRALTY ISLANDS.

- 1.—"Nusa, north end of New Ireland." By Rev. R. H. Rickard.
- 2.—"Raluana, Gazelle Peninsula, New Britain." From prayer books of the Wesleyan Mission.
- 3.—"West end of New Britain and coast of New Guinea opposite." By Rev. R. H. Rickard.
- 4.—"Duke of York Island between New Britain and New Ireland." From the Rev. G. Brown's dictionary.
- 5.—"Green Island, Admiralty Islands." By Rev. R. H. Rickard.
- 6.—"Wild Island, Admiralty Islands." By H. N. Moseley. "*Journal Anthropol. Inst.*," vol. vi, pp. 387-390.

I.

English.	Nusa.	New Britain.		Duke of York Island.
		Raluana.	West End.	
<i>Persons—</i>				
1. Man	tewan	tutana ....	....	muana.
2. Woman	naina	vavina ....	....	tebuan.
3. Boy	nalakai	bul ....	....	nat.
4. Ear	talanga-ra	taliga ....	....	taliga.
5. Eye	matagi	mata ....	....	mata.
6. Foot	kaka	kaki ....	....	kaki.
7. Hand	biti-ra	lima ....	....	lima.
8. Nose	aisu-rak ....	....	....	gigiro.
9. Tooth	gisa-ra ....	....	....	lakono.
<i>Natural Objects—</i>				
10. Bamboo	karisi ....	....	....	kauru.
11. Bird ....	....	beo	manu	pika.
12. Cape (point of land) ....	....	....	tubis	kilkil.
13. Coconut ....	....	lama	niu	lama.
14. Day	ayas	bug, keake ....	....	bug, keke.
15. Earth ....	....	qunan	magamaga	bual.
16. Feather	ugi ....	....	....	lakua.
17. Flow of tide	lubu-lubu	lubu ....	....	lubu.
18. Lime ....	....	kabag	wavu	kabag.
19. Rain	lengit	bata ....	....	bata.
20. Reef ....	....	mama	mama	luntaura.
21. Sea	laman	ta	das	tai.
22. Smoke ....	....	mi	tabui	mi.
23. Taro ....	....	pa	mawa	pa.
24. Water ....	....	tava	nanus	danim.
25. Wind	are	vuvu	vivili	dadaip.
26. Yam ....	....	....	wavua	up.
<i>Implements—</i>				
27. Armlet ....	....	lalai	sasa	lalai.
28. Canoe	tabul	waqa ....	....	aka.
29. House ....	....	pal	luma, bali	ruma.
30. Outrigger	saman ....	....	....	aman.
31. Spear ....	....	rumu	gata	bele.
<i>Verbs—</i>				
32. Come	ki lako mai	arikai ....	....	wan pat.
33. Overturn	ki lilus	tapuku ....	....	tapuku.
34. Row (in boat) ....	....	....	voli ....	....
35. Sing ....	....	kakaile	toala	kelekele.
36. Sit ....	....	ki	uqu	ki.
37. Speak	karar-ate	tata ....	....	piri.
<i>Adjectives—</i>				
38. All ....	....	vura	puluos	rap.
39. Bad	ki ong ....	....	....	akakai.
40. Good	ki roa	boina ....	....	awakak.
41. Sick	malabeng	mait ....	....	malapag.
<i>Miscellaneous—</i>				
42. No	kavek	pata ....	....	pate.
43. Yes	hei ....	....	....	iñ, maio.

(NOTE.—In Raluana and Duke of York Island, k=hard g, g=ng, q=ngg.)

II.

English.	Green Island.	Wild Island.
<i>Persons—</i>		
1. Man	simat	hama.
2. Woman	pen	bibi.
3. Boy	akamel	naru.
4. Armpit	po-lokai	bui (=arm or leg).
5. Back ...	lakului.	
6. Breast	esus.	
7. Buttocks	ekui.	
8. Ear	talingai	darinya.
9. Eye	bo-mitai...	manna.
10. Foot	kekai.	
11. Hair	epalai	langam-pui.
12. Lip	po-ngusi.	
13. Stomach	putuai	lau.
14. Throat	koloi.	
15. Tongue	kalalame	arime.
16. Tooth	eliai	livo.
<i>Natural objects—</i>		
17. Beach	lokol.	
18. Bêche-de-mer	monai.	
19. Betel-nut	bue	mbung.
20. Bird	manuai.	
21. Day	uni.	
22. Fire	kalufai.	
23. Fish	eni	uke.
24. Moon	abul.	
25. Pig	apu	po.
26. Reef	lau.	
27. Swell of the sea	londras.	
28. To-morrow	lenkiaiu.	
29. Water....	wai	wai.
30. Wind	eses.	
<i>Implements—</i>		
31. Armlet	elal	lan.
32. Axe	coloi	samil.
33. Beads	waiap	bujam.
34. Canoe....	landrol	doan.
35. Chisel....	toboni.	
36. Cloth	riap	orlau.
37. Comb	etu.	
38. Fish-hook	eku.	
39. House	eum.	
40. Mirror	panabul.	
41. Spear	salau.	
42. Tortoise-shell	pusi-boin	bue-bu.
<i>Verbs—</i>		
43. Come	egi mi.	
44. Fight	pitilu.	
45. Go	toloko.	

English.	Green Island.	Wild Island.
<i>Adjectives—</i>		
46. Bad	mahan.	
47. Good	wian.	
48. Dead	e mat.	
49. Large	mendian.	
50. Plenty	solowon.	
51. Sick	mati.	
52. Small	liin.	
<i>Miscellaneous—</i>		
53. Thus (like this)	dido.	
54. No	eboin.	
55. Yes	owa	u.

III.—NUMERALS.

	Nusa.	Raluana.	West New Britain.	Duke of York Island.	Green Island.	Wild Island.
1	sahai	tikai	tasi	ra	e si	sip.
2	pa-ua	a urua, evut	lua	ruadi	e lua	huap.
3	pa-tul	a utul	tolu	tuldi	e talo	taro.
4	po-iat	a ivat	iva	watdi	keo	vayu.
5	pa-lmit	a ilima	lima	limadi	e lima	lima.
6	....	lap-tikai...	pan-tas	nomdi	e wono	wono.
7	....	lav-urus...	panti-lua	limadi-ma-ruadi	ratalo	he-tarop.
8	....	lav-utul ...	pan-tulu...	limadi-ma-tuldi	andra-lua	anda-huap.
9	....	lav-uyat	alasue	limadi-ma-watdi	andra-si	anda-sip.
10	sangulung	arip	savulu	noina	sangaul	sangop.
20	....	a ur arip	lua savulu	ru noina	lokou	hungop.
30	....	a utul arip	....	tul a noina	trongol	
100	....	a mara ....	....	a mara	sangol	

IV.—NOTE ON THE NUSA AND WESTERN NEW BRITAIN VOCABULARY.

1. *tawan*=Motu and south-east New Guinea *tau*, male; 2. *naina*, probably an article *na*, and *ina*, a form of *hina*, *sina*, a common word=female; 4 and 5. common words; 6. *kaka*, probably=sole of the foot, and may be connected with words meaning "hand" (stretched out) in Solomon Islands, &c. (Codrington, Melan. Lang., p. 75, and Gabelentz and Meyer, Melan. Sprach., p. 433); 7. *bisi* probably=finger, New Hebrides and Banks Island *pisu*, *pusi*, Swallow Island *bisi*, Savo *bizi*; 8. *aisu*=New Guinea, South Cape *isu*, Solomon Islands *isu*, *ihu*, &c., New Hebrides *ngisu*, *ngusu*, &c.; 9. *gisa*=New Guinea, Motu *isu*, Kabadi *nise*, Maiva *nihe*; 8 and 9 are probably from the same root, originally meaning "point"; the last three words and word for "ear" show a

suffix *ra*=their; 13. *niv* is a common word, *lama* in Samoan is the candle-nut tree; 14. *ugi*=Motu and south-east New Guinea *hui*=“hair” or “feather”; 18. *wavu*=Wild Island *wav*, Motu *ahu*; 19. *lengit*=San Cristoval *rangi*, from a common root meaning “sky”; 20. *mama* is probably the water above the reef, Duke of York Island *mama*, shallow water; 21. *laman*=Banks Island and Aurora *lam*, &c.; *tas*, *tai*, *ta*, a common word for “salt” or “salt water;” 24. *nanus*=Motu *ranu*, a widely-spread word for “fresh water”; 25. *vivil*=Motu *hikiria*, to blow with the mouth; 29. *luma*=Caroline Islands, Kusaie *lom*, the common word, *ruma*; *pal*, *bali*=the Polynesian *fale*; 30. *saman*=Samoan “float of outrigger,” *samani*, or outrigger, *ama*, Banks Islands *sama*, Fiji *dhama*; 32. *lako mai*=Fiji *lako mai*, New Guinea Motu *laka*, to walk, go; 39. *ong*=Loyalty Island, Iai *kong*; 40. *boina*, probably=common *wia*; 41. *malabeng*=New Guinea, Aroma *raba*, Kerepunu *rava*, bad, with prefix of condition, *ma*; *mai*=Loyalty Islands, *mech*, ill, connected with root, *mate*, dead; 43. *hei*=common south-east New Guinea, *ea*, *e*, *aia*, &c.

V.—NOTE ON THE GREEN ISLAND VOCABULARY.

1. *mat*=probably *matua*, &c.=grown up, *si* is numeral “one”; 2. *pen*=Mefoor, *tien* Macloy Coast *pain*, &c.; 6. *esus*=New Guinea, South Cape *susu*, Polynesian *susu*; 8, 9, 10, common words; 11. *po-ngusi*=Fiji *ngusu*, lip; see 8, 9 in foregoing note; in 4, 9 and 12, the prefix, *bo*, *po*, may be compared with Epi *po-mena*, Loyalty Islands, Iai *bo-men*, tongue, where *mena* is the common word for tongue, and *bo*, *po* are unexplained; 15. *kalalame*=Duke of York Island *karama*; 20. *manuai*=common root, *manu*; 22. *kalufai*=South-east New Guinea *iruwa*, *arova*, &c.; 23. *eni*=Duke of York Island *ian*, New Britain *ien*; 24. *abul*=Fiji and Florida *vula*, Banks Island *vul*, *vol*, &c.; 25. *apu*=common *bue*, &c.; 29. *wai* is common word for water; 34. *landrol*=Efate, Nguna, New Hebrides, *larua*; 36. *riap*=*siapo*, cloth made from paper mulberry, common in Polynesia; 39. *eum*=common *ruma*; 45. *loko*=Fiji *lako*, Caroline Islands, Ulia *lako*, New Guinea Motu *laka*; 47, 48, *wia* and *mai* are common words; 51. see foregoing note on Nusa (41); 52. *liin*, a form of the common, *liki*, *riki*.

VI.

The numerals call for no special remark. They are formed according to the imperfect decimal notation of Dr. Codrington (Melan. Lang., p. 224), with prefixes for the numbers from 6 to 9, and the common *sangavul*=10. The correspondence of the Raluana prefix *lav* with the same in Banks Island is worthy of note. In Green Island *andra* probably=minus, and *andra lua*, *andra si*=less 2, less 1.

About 74 per cent. of the Nusa words here given agree with Melanesian forms. The proportion in the other vocabularies is not so large, being 67 per cent. in the list from Western New Britain, and about 56 per cent. in Green Island. In these notes I have only pointed out the most obvious agreements, but there is no doubt that closer investigation and a better knowledge of the languages of the Solomon Islands will prove more clearly the close connection of these languages with the Melanesian. The original speech of the natives of the New Guinea mainland may or may not belong to the Melanesian family, but it seems clear that Melanesians have taken possession of the islands around the eastern extremity, as well as of the south-eastern shores.

I may perhaps be allowed to add a few remarks upon what has already been written upon the languages of this neighbourhood. The Nusa words vary considerably from those of other parts of the same island. In three New Ireland vocabularies, given by Schellong,¹ only eight words agree with the Nusa, and although Rook Island is close to the western end of New Britain, only six words are the same in the list here given, and the one given by Zöller² for Rook Island.

Mr. H. N. Moseley³ pointed out a few agreements between the words in his vocabulary from D'Entrecasteaux and Wild Islands, and the Fiji, Polynesian, and New Hebrides, but sought to connect the language with the Yap of the Caroline Islands rather than with the Melanesian. The chief point of agreement with the Yap, as he showed, is in the formation of the numerals for eight (*anda huap*, *andra lua*) and nine (*anda sip*, *andra si*) by subtraction, *anda* and *andra* apparently meaning "minus," and *huap* and *sip* being the words for two and one. In Schellong's vocabulary for Admiralty Islands the same formation appears, seven being *sua-tolo*, eight *shua-luea*, nine *shu-ri*, and *tolo*, *luvea*, *ri* the words for three, two, and one. These Admiralty forms correspond to the Yap *me-delip*, seven; *me-ruk*, eight; *me-rip*, nine; from *odalip*, three; *lakrue*, two; *darip*, one. This formation is not found in other languages of the Caroline Islands.

A vocabulary of twenty-five words from Elizabeth Island in the Admiralty Group is given by Zöller:—

Ear ....	.....	<i>rellingai.</i>
Eye ....	.....	<i>boromodai.</i>
Head ....	.....	<i>we-mbalai</i> (cf. Green Island, <i>hair</i>).
Betelnut .....	.....	<i>mbung.</i>
Cocoanut .....	.....	<i>eniu</i> (<i>niu</i> , Moseley).
Fire ....	.....	<i>foncan.</i>
Fowl .....	.....	<i>koko.</i>
Moon .....	.....	<i>kayo.</i>
Pearl .....	.....	<i>boyap</i> (= bead of Green Island).
Sun ....	.....	<i>mata-malei.</i>
Tree ....	.....	<i>epap.</i>
Water .....	.....	<i>eboe.</i>
Yam ....	.....	<i>malen.</i>
Bad ....	.....	<i>moan.</i>
Good .....	.....	<i>nyna.</i>
Large .....	.....	<i>mendrian.</i>
Little .....	.....	<i>eligin.</i>
Boat ....	.....	<i>ekan.</i>
Spear .....	.....	<i>pattilau.</i>

¹ "Die Jabim-Sprache der Finschhafen Gegend (N. O. Neu Guinea)," von Dr. O. Schellong, Leipzig, 1890.

² "Petermann's Mitteilungen," 36 Band, 1890, v, p. 127. "Untersuchungen über 24 Sprachen aus dem Schutzgebiet der Neuguinea Compagnie," von Hugo Zöller.

³ "Journ. Anthropol. Inst.," vol. vi, 1877, p. 379.

1	....	....	....	<i>e si.</i>
2	....	....	....	<i>e luo.</i>
3	....	....	....	<i>e dalo.</i>
4	....	....	....	<i>e a.</i>
5	....	....	....	<i>e lema.</i>
10	....	....	....	<i>sangon.</i>

(Words in italic agree with Rev. R. H. Rickard's list.)

In twenty words common to the Green Island and Elizabeth Island vocabularies fifteen are the same. Two other vocabularies from the Admiralty Islands are given by Schellong. The exact locality to which the first belongs is not stated, and it only contains a few words which agree with Mr. Rickard's vocabulary. The second is said to be from Green Island, but with a note¹ which shows that it was obtained from a native on a trading vessel. It does not represent the language of Green Island, although a few words are the same. If it is the language of any particular district it belongs to the island of Buka, in the Solomon's. A vocabulary given to Mr. C. W. Woodford,² by his boy Hogare, as the language of his native village of Lehona, Buka Island, is nearly identical with Schellong's language of Green Island. The Buka vocabulary of Zöller also closely agrees with it. The following extract from Schellong shows how widely his two vocabularies differ from Rev. R. H. Rickard's:—

	Admiralty.	(?) Green Island.
Man	kimeala	(o)zon.
Woman	pali	* taho(a)l (mother, in Buka).
Belly	pekeptin	bussusse.
Breast	shurun	ssusuge.
Ear	chianin	
Eye	mutuan	namatagu.
Foot	kanishihin	maü.
Hair	lamupuluan	
Tooth	ihin	* liho.
Bird	shakuhia	(a)pianne (ban, Moseley).
Fire	i	tole.
Fish	ni	* aiense.
Moon	pul	* tzehau.
Pig	pou	* paum.
Water	ua	* ramun.
Boat	shuala	* heulu (tree in Buka).
House	etiau	* luma.

¹ "Green Island; Leute, die von der östlich des Bismarck-Archipels gelegenen Insel Gr, sowie von den Salomoninseln und Neu-Hebriden stammten, befanden sich an Bord eines Schooners als Bootsmannschaft; eine Verständigung gelang mit Hilfe des Pitchen-English."—Die Jabim-Sprache, p. 104.

² "A Naturalist among the Head Hunters," by C. M. Woodford, London, 1890, p. 225.

	Admiralty.	(?) Green Island.
Spear	sapi	* ssaka.
Dead	tschumiake	(i)mat.
Large	mushiaban	* ekapan.
Sick	hasiin	(he)mate.
Small	kape	tetenne.
Yes	nemui....	ha.
No	poi	* mo(ā).
1	ri	* toe.
2	luvea	* hul.
3	tolo	* pierē.
4	shu	* haets.
5	limia	* lima.
6	ona	* monomo.
7	sua-tolu	* mohet.
8	shua-lua	* to(u)el.
9	shu-ri....	* ssie.
10	runva	* malatto.

Words in italics agree with Rev. R. H. Rickard's list, those marked (*) agree with the Buka of Woodford and Zöllner. Besides these the words for star, sea, cocoanut, cockatoo, finger, and skin, in Woodford, and for eat, village, and yam, in Zöllner, are the same as in Schellong's so-called Green Island.

DISCUSSION.

Dr. CODRINGTON said: Mr. Ray's comments on these vocabularies touch on most of the points on which my own knowledge of the Melanesian words could be brought to bear, but there are two or three words in his lists which I should like to notice. 1. In the Raluana list 27, armlet is *lalai*, as it is in Duke of York's Island, and the same name for the same thing appears in the Green Island, list 31, as *elal*. In the Banks' Islands an armlet made of a particular shell is *lala*, because the shell is *lala*. It is probable, considering that words in vocabularies are generally obtained by pointing to some particular object, that the armlets in Raluana, Duke of York Island, and Green Island, were formed of that shell, which indeed is very commonly used for that ornament. The identity of the word then is fixed rather as applying to the shell than to the ornament; and, if this be so, it is plain that the common possession of a name for a species of mollusc in the Bismarck Archipelago and the Banks' Islands shows more evidence of common language than the presence of a word which might have been introduced with the use of the ornament. 2. In the Green Island list, 13, stomach is *putuai*; this may be the Banks' Islands *putoi*, navel; the question having been supposed to be directed at that part. 3. The *Nusa ki lako mai*, given as equivalent to come, is rightly explained by Mr. Ray's reference to

the Fiji *lako*; *mai* being so very commonly "hither." In the Banks' Islands *valago* is to run, the same work *lako* with *va* prefixed. 4. The word which strikes me as most remarkable is the *Nusa laman*, sea; that being the dominant word in the narrow district of the Banks' Islands and Northern New Hebrides, but extremely rare without that limit. Words like these seem to have much more significance in regard to the question of the connexion of these languages that words like *bue*, *mbung*, the universal Solomon Island *bua*, the name of the betel nut, introduced without much doubt with the practice of chewing the betel. Comparison of words, like that comparison of implements, weapons, &c., now made much more easy than before by Messrs. Heape and Partridge's Album, tends, as it seems to me, to the rejection of the view that identical terms in various regions of Oceania have been carried on the surface by commerce, immigration, and castaways, and rather to the belief of an underlying community of speech.

The SECRETARY read a note on the presence of a Mongoloid element in Brittany, by Cte. A. Mahé de la Bourdonnais, upon which the PRESIDENT made some observations.

The PRESIDENT stated, on behalf of Mr. Francis Galton, that on account of the approaching occupation, by the Imperial Institute, of the land upon which his Anthropometric Laboratory is erected, he is compelled, to his regret, to close and to dismantle it.

FEBRUARY 24TH, 1891.

EDWARD B. TYLOR, Esq., D.C.L., F.R.S., *President, in the Chair.*

The Minutes of the last meeting were read and signed.

The following elections were announced:—

The Hon. Mrs. PEEK, of Wimbledon House, Wimbledon.

RANDALL H. PYE, Esq., of 7, Penywern Road, Earl's Court, S.W.

The following presents were announced, and thanks voted to the respective donors:—

FOR THE LIBRARY.

From Dr. BEDDOE.—*Ricerche preistoriche nelle caverne di S. Canziano presso Trieste. di Carlo Dr. Marchesetti. [Estratto dal Bollettino della Società Adriatica di scienze naturali in Trieste. Vol. xi, 1889.]*

- From Dr. BEDDOE.—*La Necropoli di S. Lucia presso Tolmino del Dr. Carlo Marchesetti*. 8vo. Trieste. 1886.
- From Dr. CARLO MARCHESETTI.—*Atti del Museo Civico di Storia Naturale di Trieste*. VIII.
- From CUTHBERT E. PEEK, Esq.—*Royal Geographical Society, Hints to Travellers*. 8°.
- From the AUTHOR.—*Die Grenzen der niederdeutschen Sprache*. Von Richard Andree. [From *Globus*. Bd. lix. Nr. 2 u. 3.]
- On certain mutilations practised by the natives of the Viti Islands. By Bolton S. Corney.
- Notes on counting and measuring among the Eskimo of Point Barrow. By John Murdock.
- The history of the Throwing Stick which drifted from Alaska to Greenland. By John Murdock.
- A study of Eskimo Bows in the U.S. National Museum. By John Murdock.
- From the UNITED STATES GEOLOGICAL SURVEY.—*Bulletin* Nos. 58, 59, 60, 61, 63, 64, 66; *Annual Report*, IX; *Mineral Resources of the United States*, 1888; *Monographs*, Vol. i.
- From the GOVERNMENT OF PERAK.—*The Perak Government Gazette*. Vol. iv. No. 1.
- From the INDIAN OFFICE.—*Epigraphia Indica and Record of the Archæological Survey of India*. Part 6.
- From the EDITOR.—*Journal of Mental Science*. N.S. No. 120.
- *L'Anthropologie*. Tome ii. No. 1.
- *Nature*. Nos. 1111, 1112.
- *Revue Scientifique*. Tome xlvii. Nos. 7, 8.
- *Science*. Nos. 418, 419.
- From the SOCIETY OF ARTS.—*Journal*. Nos. 1995, 1896.

The Rev. C. HARRISON read a paper on Religion and Family among the Haidas.

RELIGION and FAMILY among the HAIDAS (*Queen Charlotte Islands*).

By REV. CHARLES HARRISON.

THE Queen Charlotte Islands, the extreme north-western lands of British Columbia, lie in the Pacific Ocean between fifty-one and fifty-five degrees of north latitude. They comprise over 200 islands, their length being 220 miles and their greatest width sixty-three miles. Graham, Moresby, Prevost, and North Islands are the largest, extending eighty, seventy, fifteen, and eight miles respectively, and constitute eighty per cent. of their entire area. Dixon's Entrance on the north, with an average width of thirty miles, separates Graham Island from the Prince

of Wales group in Alaska. Queen Charlotte Sound, from thirty to eighty miles across, lies between them and the mainland of the province. The nearest land is Stephen's Island, twenty-eight miles east of Rose Spit, the extreme north-eastern part of Graham Island. Cape St. James, their most southerly point, is 140 miles north-west of Cape Scott, the northernmost land of Vancouver Island. The Queen Charlotte Islands were first discovered by Juan Perez, a Spanish navigator, on the 18th of July, 1774, and named Cabo de St. Margarita. In 1787 Captain Dixon was exploring the west coast of Vancouver on behalf of a London fur company, when he discovered other islands ahead of him. He came here through an entrance on the west coast, which has been known as Dixon's Entrance ever since. He then hoisted the British flag and named the islands after George the Third's queen, and they have been known by that name ever since. The first white men known to have landed upon the islands were a portion of the crew of the *Iphigenia*, under the command of Captain Douglass. They remained nine days in Parry Passage in 1788, trading with the natives. The most extensive explorations made of any portion of the islands were those of Captain Etienne Marchand in the French ship *Solide*. In 1791 he examined the shores bordering on Parry Passage and part of the west coast of Graham Island commencing from Frederick Island southward. Since that time, although several parties of prospectors have visited various parts of the islands, no systematic effort has been made to thoroughly explore the entire group. During the past eight years I have resided at Massett, Graham Island, and am the only white man thoroughly conversant with the Haida language. The ancient traditions of the Haidas concerning their religion and creation I have received verbally from some of the oldest chiefs. I have divided my subject into two parts:—1st, the Haida Deities; 2nd, The Haida Creation.

PART I.—THE HAIDA DEITIES.

The ancient Haidas believed in two important gods—one as Hierarch of the celestial sphere, and the other as sovereign of the lower regions. These two gods formerly lived together in happiness attended by other inferior gods, until a dispute arose as to light and darkness. Shānungetlagidas was the name of one and Hetgwaulana was the name of the other god. Shānungetlagidas always wished for light in their abode of happiness and was never sleepy or tired. On the contrary Hetgwaulana was never happy unless it was dark. He said that it was impossible to sleep if it were always light. So one

day he was very angry and demanded that it should always be dark. Shānungetlagidas would not listen to this proposal and consequently a contest arose as to who should be the most powerful monarch in this land of gods. A battle accordingly took place, and the Chief of Light and his attendants prevailed and cast forth the Chief of Darkness and his followers into the lower regions. Thus it happens that where Shānungetlagidas is supreme it is always light, but, on the contrary, where Hetgwaulana is the chief it is always pitchy dark, and he is allowed to sleep undisturbed by the faintest ray of light. It is fully believed that Shānungetlagidas is the possessor of the sun and moon; he is also the creator of the stars and all the other luminaries that are supposed to exist in the kingdom of light. Hetgwaulana is credited with the origin of the clouds and darkness. As I have already stated, these two supreme deities had minor gods to assist them. All fevers are attributed to the god who resides in the sun. When he is offended by some action of theirs he visits the earth with the pestilence of smallpox and fevers. They try to propitiate him with offerings of berries cast into fire, and if they fail to regain his goodwill, they then take some portions of their daily food (chiefly smoked salmon or dry halibut) and throw it as far as they can into the salt water in order to gain the influence of the god of the sea, whom they believe to be more powerful than the god in the sun.

Whenever the Haidas camped near the beach, before they commenced to erect their tent and cook their food, they would invariably take some dry halibut and berries and cast into the fire to propitiate the god of the earth, and so secure his influence to protect them from danger during the night. The god of the earth did not require this food for himself, but carried it to the friends of those encamped who had died during the previous year. In case they should happen to be greedy, and throw but a scanty portion of their food into the fire, their deceased friends would become very angry, and within the next twelve months they all would most assuredly die.

The god of the clouds is another deity who inspires a feeling of awe and dread in the bosom of the bravest warrior. On a dull day, when the clouds are hanging low down, they firmly believe that this god is in search of a meal, and anyone caught out on such a day is bound to die before the expiration of six months, so as to furnish a dainty dish for this anthropophagous god. As the people are afraid of his cruel threat to catch all who come out on such a day, they almost always remain indoors. This god has a novel way of securing his prize. He comes down on the clouds and sits watching for any stray Indian. As soon as one comes near him he does not pounce upon his

body. No! this would be too vulgar an action for a god to do. He merely seizes the spirit of the Indian, *i.e.*, he draws the spirit out of the body and takes it with him on high; and in a very short space of time the body has to go in search of his spirit, and so becomes an easy victim of this cannibal god.

The Haidas did not fear the two great spirits as much as they feared the minor deities. They believed that Shānungetlagidas and Hetgwaulana were too great and independent to care very much for them while on earth, but were busy preparing habitations for them to live in after death. The two great gods were worshipped but not feared, and no one is able to give a definite answer as to what they believed they were or how they came into existence. They existed according to tradition, and that was sufficient for the Haidas. They also created all the inferior gods to assist them in their united kingdom above the clouds. If, however, they were in great trouble, they would evoke the aid of the Spirit of Light, and if they wished to bring an eternal curse on their enemies, they would pray and offer sacrifices of fish to the Spirit of Darkness. Shānungetlagidas is supposed to have commanded the inferior gods to protect the Haida nation and to supply them with all the necessaries of life. Their supplications were addressed to this supreme chief through the god of the sun and the god of the sea. Their offerings were always made to the minor deities in order to secure their goodwill and assistance as mediators with the Great Chief whenever they were seriously ill and on the point of death. Ordinarily most of their religious rites and ceremonies have reference only to the sun god and the sea god.

Whenever a good Haida is about to die he sees a canoe manned by some of his bygone friends who come with the tide to bid him welcome to their domain. They are supposed to be sent by the god of death. The dying man sees them and is rejoiced to know that after a period passed within the city of death, he will, with his friends, be welcomed to the kingdom of Shānungetlagidas. His friends call him and bid him come. They say, "Come with us; come into the land of light; come into the land of great things; wonderful things; come into the land of plenty, where hunger is unknown; come with us and rest for evermore. The birds of our country will bring you delicious berries; the dogs of our city will furnish you with innumerable bearskins, and your home will be made of beautiful cedar all inset with most lovely abalone shells. Come with us into our land of sunshine and be a great chief attended with numerous slaves. Come with us and the hairseal will provide you with salmon, halibut, and all kinds of shellfish. Come with us now," the spirits say, "for the tide is about to ebb and we must

depart." At last the soul of the deceased man leaves his body to join the company of his former friends, and his body is buried with great pomp and splendour.

In regard to the wicked Indians, great clouds appear in which are the satellites of the cloud monarch who are ready to pounce upon their souls as soon as the body dies. They have no beautiful houses to dwell in, and no good food is supplied them. They are compelled to live with this dreaded chief twelve months, and after their bodies are buried, their souls are commanded to descend to the earth and bring their bodies to supply their chief with food. Should they refuse to accede to his request, he then begins to feast on their spirits, the consequence of which is, that their *souls* will immediately die. When the twelve months expire, he conveys their souls, if obedient, down through the sea, and the land beneath the sea, into the kingdom of Hetgwaulana.

The good land is heaven, and is called "shā tligē," the land above. The Good Chief is the reigning monarch in the land above, and the souls of the good Indians are taken there by his emissaries and presented with everything that could be wished for, after they have successfully passed through the domain of Chief Death. In heaven everybody is happy. There, in the land of the Great Chief, is perpetual light, with no clouds, no storms, and no fierce winds to mar the peace of his friends. There, they are clothed in beautiful garments made of cedar and spruce root and hunt and fish the livelong day. There, they dance their best dances and sing their favourite songs in the presence of their chief continually.

Hetgwaugē is the name of the lower region over which Hetgwaulana is the chief. To this place Chief Cloud conducts the souls of the wicked Indians, and there they are prevented from hunting and fishing, and all enjoyment is at an end. It is a most dismal region to live in, as it is always dark, with terrible storms, and cold winds blowing continually. The storms prevent them from catching fish, and the snow prevents them from hunting, and thus they are in a state of perpetual misery and trouble.

The question naturally arises, what makes a good Indian, and what constitutes a bad one? The good Indians are those who worship the Great Chief through the minor deities; are punctual in offering sacrifices to the inferior gods; and are obedient to the commands of the great medicine man known as Saagga. They must also love their friends, and be kindly disposed towards the poor. They must never fight with their friends, but must always attend the great dance festivals and give liberally towards the feasts. They must only go to war against a foreign tribe at the command of the Saagga, who will then assure them of

victory. If anyone be killed by an accident or in actual warfare the services of the Saagga will gain him an admittance into heaven. For which service the Saagga was accustomed to receive a bale of blankets valued at \$60. Finally, all who are happy while on this earth will be admitted by the Great Chief into his eternal kingdom, where they will continue to be happy without end.

The wicked Indians are those who are always quarrelling and fighting. They have no desire to love their friends, and their only wish is to steal the property of the good Indians. The greatest sin a Haida can commit is to disregard the commands of the medicine man. All bad Indians hate the Saagga, despise his authority, and are consequently sent by him to the lower region. In general it is safe to say, that all who are unkind one to another, all who are quarrelsome, all who steal and commit murder, and all who disobey the medicine man; will be handed over by Chief Cloud to Chief Hetgwaulana after he has feasted on their bodies.

The Haidas believe that the soul leaves the body immediately after death, and is taken possession of either by Chief Cloud or Chief Death. The good soul is taken possession of by Chief Death, and during its sojourn in the Domain of Death it is taught many wonderful things, and becomes initiated into the mysteries of heaven. At last he becomes the essence of the purest light and is able to revisit his friends on earth. At the close of the twelve months' probation the time of his redemption from Death's kingdom arrives. As it is impossible that the pure essence of light, which is Shānungetlagidas, should come into contact with a depraved material body, the good Indian assumes only its appearance, and then the gates of cedar, beautifully carved and ornamented with shells, are thrown open, and his soul which by this time assumes the shape of his earthly body, but clothed in the light of the Kingdom of Light, is delivered to the Chief of Light by Chief Death in whose domains he has been taught the customs to be observed in heaven.

The bad Indian in the region of the clouds is tortured continually. In the first place his soul has to witness the chief of that region feasting on his dead body until it is entirely consumed. Secondly, he is so near to this world that he evinces a longing desire to return to his friends and gain their sympathy. Thirdly, he has the dread of being conducted to Hetgwaulana ever before his mind. No idea of atonement for his past wicked life is ever permitted, since his soul after death is incapable of reformation and consequently incapable of salvation. Sometimes permission is granted to souls in the clouds to revisit the earth. Then they can only be seen by the Saagga, who describes them as

destitute of all clothing. They are looked upon as wicked and treacherous spirits, and the medicine man's duty is to prevent them entering any of the houses; and not only so, but as soon as the Saagga makes the announcement that a certain soul has descended from the clouds, no one will leave their homes, because the sight of a wicked soul would cause sickness and trouble, and his touch, death.

Now it sometimes happens that the souls in the Domain of Death are not made pure and holy within twelve months, and yet when their bodies died they were not wicked enough to be captured by Chief Cloud. Then it becomes necessary that the less sanctified souls return to earth and become regenerated. Every soul not worthy of entering heaven is sent back to his friends and reborn at the first opportunity. The Saagga enters the house to see the newly born baby, and his attendant spirits announce to him that in that child is the soul of one of their departed friends who died during the preceding year. Their new life has to be such as will subject them to retribution for the misdeeds of their past life, and thus the purgation of souls has to be carried on in successive migrations until they are suitable to enter the region of eternal light.

Likewise it sometimes happens that some souls are too depraved and wicked after twelve months' sojourn in the clouds to be conducted to Hetgwaulana, that they also are sent back to this earth, but are not allowed to re-enter mankind. They are allowed to enter the bodies of animals and fish, and compelled to undergo great torture. These evil souls are commanded to hurt all strangers, but have not to molest persons of their own tribes. The black bear is the most powerful creature that such a soul could inhabit, and the mouse is the smallest one. The animals and fish inhabited by evil spirits are also continually afraid of being killed, and it appears to me that this state of suspense is the means by which they could re-enter the clouds, and be finally conducted into the presence of Hetgwaulana. Thus it is that the ancient Haidas always used to wear an amulet of a bear's tooth around their necks to protect them from the wicked soul of the bear. Storms and bad weather, when they cause the people trouble and a scarcity of food, were attributed to an abundance of wicked souls in the vicinity.

Sometimes the soul enters into the body of a fin-back whale, and consequently fin-back whales are much honoured and at the same time feared. On no account could an Indian a few years ago be persuaded to shoot one. Sometimes a solitary whale enters the inlet and appears opposite to an Indian house. Then the inhabitants are in a great dread of capsizing at sea, and if

such should be the case they will most assuredly be seized for Chief Cloud.

Take the mouse for another example of the strange and demoniacal notions that exist amongst the elder portion of the community even at the present time. This harmless little creature is magnified into such proportions at times that it can contain the wicked soul of an adult, and yet become so small that it can enter into the stomach of the living. The ancient Haidas firmly believed that in every one's stomach existed a number of mice, and each mouse represented the wicked and restless soul of a departed relative. Therefore a bad-tempered man was the possessor of a mouse that was possessed by a soul that was too ill-tempered to be introduced to Hetgwaulana. A man who was always quarrelling and fighting was supposed to have within him a soul who in his former life was addicted to such vices. The great question to consider is, how do the mice get into the stomach? Chief Edenshaw, the superior chief of the Haida nation, now 90 years of age, calmly and quietly told me that one bright summer's morning, having got up very early, he went for a stroll over Rose Spit and came upon some women who were sound asleep. To his horror and great astonishment he saw that their faces were covered with mice. He sat down quietly and watched them. Presently he saw one disappear down a woman's throat, then another, and quickly no less than seven vanished down her throat. Out of the seven that had disappeared only one returned as he had evidently gone down the throat of one of his tribe instead of the throat of an enemy. This left six woebegone souls inside of this most unfortunate woman. I did not ask him what became eventually of the woman herself, but doubtless, from the number of malevolent spirits located within her, she must have finally become a dainty dish for the Cloud Chief.

PART II.—CREATION OF THE HAIDAS.

Now the question arises, how were the Haidas created, and by whom? Thousands of years after Hetgwaulana was cast forth from the region of the clouds he commanded one of his followers to assume the shape of a bird and make an attempt to discover what the gods in the Kingdom of Light were occupied with, and also obtain information if possible how they in the region of darkness could again obtain admission into their long lost country.

This god assumed the form of a Raven, and after his first attempt to obtain information about Shānungetlagidas had been frustrated he determined never to return again to the dismal

abode of his associates but remain an inhabitant of the air and be at liberty to do what he pleased. Thus in the earliest ages the Raven was supposed to live in the grey clouds which overshadow the mighty deep, and had no place of refuge and no place on which he could rest. At this period there was no dry land and the face of the earth was covered with water. At last the Raven grew very angry, being very weary, and beat the water with his wings until it flew up in great clouds on each side of him, and in its fall became transformed into tiny rocks, and so at last he found a resting place.

These rocks grew larger and larger and extended themselves on every side until at last they reached from North Island to Cape Saint James. Some years afterwards the rocks underwent another change and became transformed into sand, upon which a few trees eventually grew, and this became Queen Charlotte Islands and the country of the Haidas.

The Raven then wished some one to assist him in cultivating his newly-made world. He therefore collected together two large mounds of clam-shells on the beach near Sisk and made them human, and afterwards compelled those now made to become his slaves. At last the two slaves became dissatisfied with their condition and told the Raven that they were not properly made. In anger the Raven listened to their piteous story, and then concluded to make them male and female. He threw limpets at one which eventually became the man, and the other remained as she was before, a woman. Thus were created the first parents of the Haida nation. Some time ago a little Haida boy was asked who had made him. Without stopping to consider, he promptly answered Yētlth the Raven. This goes to prove that until quite recently the Haidas fully believed the Raven to be their creator.

The creator lived at the north-eastern point of Graham Island at a place called Rose Spit. This place is twenty-six miles distant from Massett. He presently grew weary with his lonely life and at last commanded the female slave to be his wife. They lived peaceably and happily together for a number of years, but at last he became angry with her, and sent her and the man slave away to a place now called Skidegate, because she bore him no children.

Being left quite alone, he came to the determination to again gain admittance into the Kingdom of Light, not to please, however, the Chief of Darkness, but to gain his own ends and secure a beautiful wife from among the daughters of the heavenly chiefs. One bright summer morning he started off on his long and weary journey. He soared upwards and onward over the lonely sea, until the land he had created appeared to

him to be a small mosquito. Upwards he soared into the clear blue sky until at last he came to the walls of heaven. He concealed himself until the evening, and then assumed the form of a bear. He then scratched a hole through the wall and entered his former abode.

The place had greatly changed since the time he was an inhabitant there, and consequently he took time to consider everything that he saw so as to form a similar kingdom on his return to earth. There he found that everyone was considered a god or a chief, and all were submissive to the Chief of Light, who still held supreme power as in olden times. He also found that the Great Chief had divided his kingdom into towns and cities, into lands and seas, and had created the moon and the stars, and made a great luminary to rule over all, which was called *Juië*, the sun. At last he was caught by the hunters of the king and brought into his presence. As the Raven appeared to be a beautiful and tame bear, he was kept as a playmate for the king's youngest son. He then spent three years in intimate connection with the royal family, and had sufficient time to make careful and necessary observations prior to his descent to the lower world. He determined to found a dynasty as powerful as the one over which *Shānungetlagidas* held control, and that his people also should be as numerous as the inhabitants of heaven.

It was customary for the children in the Land of Light to disguise and transform themselves into bears, seals, and birds. Now it so happened that the Raven who had become a bear was strolling on the beach one evening, looking for his supper of clams, when he espied three other bears approaching him. He knew at once that they were children of a great chief, and instantly he transformed himself into a large eagle, stole the sun, which happened to be setting at the time, also the fire stick that was used to kindle the heavenly fires, and flew over the walls of heaven with one under each wing, together with the child of a great chief in his beak.

As soon as the people found that the sun had been stolen, they reported the matter at once to the king. He then ordered his kingdom to be searched, and if the culprit were found he was condemned to be thrown down to the kingdom of *Hetgwaulana*. Whilst they were busy searching for the thief, a messenger arrived, who stated that he had seen a large eagle flying over the walls of their city with the sun under his wing. At once, all the heavenly citizens gave chase, and the Raven was pursued. In his flight for safety, he dropped the child and it fell down through the clouds, and down into the sea close to the Raven's kingdom. The Raven also descended, bearing

with him the sun and the fire stick in safety to the earth. When the child fell into the sea, he cried aloud for assistance, and immediately the little fishes came in great shoals to his aid and carried him on their backs safely to the shore. This fish is very numerous around Rose Spit at the present day, and their forms have remained dinted in the blue clay of that district from the day when they bore the heaven-born child ashore until now. The Great Chief was a lover of peace, and consequently did not allow his followers to pursue the Raven down to the earth, as Chief Hetgwaulana might then be tempted to regain heaven and give them perpetual trouble. So the Raven was unmolested, and another sun was created in heaven by the Great Ruler who loved light and hated darkness.

Now the Raven thought that he had secured a chief's daughter, but it turned out to be a great chief's son. The Raven loved him exceedingly, and built a house at Rose Spit especially for the accommodation of the child and the sun. The child grew to be very powerful and had command over all animals, fish, and birds. Whenever he called to the fish they would at once appear and bear him out to sea. Whenever he wished to fly through the air he would call to the birds. They would at once come and bear him wherever he wished to go on their wings. The bears and other animals attended to his daily wants and supplied him with salmon and berries. The animals, birds, and fish were created by the Raven for the sole benefit of this heaven-born child. The Raven also kept the sun and the fire stick in a very strong and secure room, as he was afraid that his two former slaves would return and steal them.

Presently the slave wife of the Raven returned and begged to be readmitted into the Raven's society. The request was granted, and she became once more the mistress of the Raven's household. She took a great interest in the child and attended to his every wish. By this time the child had grown to be a handsome young man and began to love this woman. She reciprocated his love and at last resolved to become his wife. The Raven soon found that they were acting as man and wife, and he became very angry. He threatened to kill the woman. This threat caused the lovers to escape from the house and hide themselves in the bush. When they escaped from the Raven's house, they carried with them a large cedar box, in which the sun and the fire stick were placed. Day after day, and month after month, they wandered southward without proper nourishment and in great fear of the Raven. They also carried with them the box containing the sun and the fire stick.

One evening, faint and weary, they sat down near a little

creek, and the woman, being very hungry, wept bitterly. Her husband walked a little distance up the stream, and at last found a dead land otter, but could not eat it as they had no fire to cook it. Next morning, they remembered that they had the fire stick in the box that they were carrying. They determined to try it. The young man got it and instantly made fire, and the two cooked the body of the otter, ate it, and proceeded on their journey. When they reached Cape Ball, they were hungry again, but the young man began to sing some of the songs taught him in heaven, and the sea receded four miles from the shore and left one great whale stranded on the beach. The young man got rocks and stones, and carried them on his back to where the whale was, and barred it in, and thus described a circle around it that can be seen at the present day.

The young man and his wife lived on whale flesh until they reached the channel that divides Graham and Moresby Islands, and there they built a house, which afterwards became the nucleus of the Skidegate village. There they lived for several years in peace and prosperity, and a daughter was born which made them exceedingly happy. In time their daughter grew to be a beautiful woman and most lovely to behold, but the great drawback to her peace of mind was that no husband could be found for her.

Year after year passed by, and when her parents had given up the idea of providing her with a husband, there came from North Island, around the west coast, the Raven's male slave that he had made on the beach at Sisk, and this forlorn specimen of early man desired the hand of this lovely damsel in marriage. Her father refused to give his consent, and was very angry at the impudence of a clam-shell-made man in daring even to think of becoming united to the daughter of a heaven-born chief. The slave was not so easily to be got rid of, so he lived in the woods near the house, and whenever the husband was away from home would come and talk with his wife, who was the same woman that was made by the Raven at the time of his creation. This woman treated him as her brother, and told him all her secrets, and even went so far as to reveal to him the place where her husband kept the chest containing the sun that he had stolen from the Raven's house at Rose Spit.

This treasure was safely stored in a strongly built house in the woods where the heaven-born man would frequently go to pray to the gods in the Kingdom of Light. It was bad policy for the woman to divulge the whereabouts of her husband's great treasure, for the heaven-born chief, on the slave appealing for the last time for his daughter's hand, kicked him most

unceremoniously from the house. In revenge, the chief having retired for the night, the slave went to the house in the woods, descended through the smoke hole, and found the box, which contained the sun. He seized a large club that was on the floor and destroyed the box, taking great care of the sun which he had first abstracted. He then sat down and pondered over his lonely lot in life, and became at last so mad that in anger he kicked the sun until it was broken into fragments, and each piece flew up through the smoke hole into the sky. The largest piece became the sun, a smaller one the moon, and all the chips became stars scattered upon the face of the heavens. Thus were created the sun, moon, and stars of the Haida country.

It is curious to note that the heaven-born chief was allowed to marry an earth-born slave, but the earth-born slave was not allowed to have the daughter of the heaven-born chief for his wife. This is adhered to at the present day. A chief is allowed to marry a female slave, whilst the male slave is not allowed to marry a free-born woman, thus following the supposed laws of their creator—the Raven.

The slave at once realised the terrible position in which he was situated; for, had the chief found him he would most undoubtedly have been killed. So before the dawn of the following morning he was well on his way on the west coast to his former abode at the North Island. He travelled by night and slept in the woods during the day, thus avoiding the keen eye of the Raven and the meeting of the Chief. At last he reached home and sat brooding over his misfortunes, until the happy thought entered his mind of doing what the Raven had done, and to seek his wife from amongst the daughters of heaven.

At this period of the world's civilization they possessed bows and arrows made after the manner of those seen by the Raven when in the Kingdom of Light. They also had the sun to give them heat during the day, and the moon and stars to give light by night. So on one bright moonlight night he shot an arrow into the moon so that it remained there. A second arrow he shot into the notch of the first, a third into the notch of the second, and continued to do so until the arrows reached from the moon to the earth. He was very energetic in his work, for he shot no less than three hundred and sixty-five arrows, which took him three hundred and sixty-five nights to accomplish, and which ultimately got transformed into so many days and nights that finally they became the days of the Haida year.

Up this ladder of arrows he climbed and passed through the moon into heaven. Early in the morning of the first day that he arrived there he saw a beautiful woman swimming in a lake of

crystal. He stealthily went round to the side on which she was likely to step ashore, and awaited her arrival. She soon came: but no sooner did she set her foot on the beach than she was seized by the slave with whom he dropped into the sea not far from North Island.

The Raven happened to be flying near North Island during the descent of the slave, and noticing something extraordinary in the atmosphere he watched, and at last discovered what he thought to be two large eagles were the slave and the beautiful woman. No sooner did the slave lead her into his house than the Raven appeared. The Raven demanded that the slave should give him this beautiful woman, but he refused to do so. Whereupon the Raven became very angry, took possession of the woman as his wife, and most unceremoniously changed the slave into a spirit, and drove him away from him for ever. He cursed the slave most bitterly and commanded that he should always be a wandering spirit to look after the growth of every living thing.

Thus the wanderer, as the slave is now termed, is always busily engaged causing the berries and roots to grow for the support of the Haidas. Every plant, every flower, and every tree are under his control; and he it is that provides fine cedar trees on the islands, out of which the natives dig their canoes. The beasts of the forest, the fish in the sea, and the birds of the air are under his supreme control. At the present time he is fulfilling his destiny, and at times the Haidas think with gratitude of his goodwill toward them, and offer him sacrifices of berries, roots, salmon and bear-grease. These they put into hollow trees to provide a meal for their most unfortunate ancestor, should he require anything to eat. Thus he wanders upon the face of the earth both night and day, and must continue to roam apart from his descendants, until the end of all things. At the end of time, when the Raven shall become dissatisfied with the existing state of affairs he will recall him, and woe to the Haidas when he is recalled! for the trees and plants, the fish and animals, the fowls of the air, and even their country will most undoubtedly cease to be, and then shall the end of the Haidas come.

Mr. HARRISON has since contributed the following notes in reply to various questions raised during the discussion:—

Firstly. Many of the visitors to Queen Charlotte Islands are of the opinion that the ancestors of the Haida nation were blown out to sea from some of the harbours of Japan, and having lost all bearings were eventually driven across to the islands.

with him the sun and the fire stick in safety to the earth. When the child fell into the sea, he cried aloud for assistance, and immediately the little fishes came in great shoals to his aid and carried him on their backs safely to the shore. This fish is very numerous around Rose Spit at the present day, and their forms have remained dinted in the blue clay of that district from the day when they bore the heaven-born child ashore until now. The Great Chief was a lover of peace, and consequently did not allow his followers to pursue the Raven down to the earth, as Chief Hetgwaulana might then be tempted to regain heaven and give them perpetual trouble. So the Raven was unmolested, and another sun was created in heaven by the Great Ruler who loved light and hated darkness.

Now the Raven thought that he had secured a chief's daughter, but it turned out to be a great chief's son. The Raven loved him exceedingly, and built a house at Rose Spit especially for the accommodation of the child and the sun. The child grew to be very powerful and had command over all animals, fish, and birds. Whenever he called to the fish they would at once appear and bear him out to sea. Whenever he wished to fly through the air he would call to the birds. They would at once come and bear him wherever he wished to go on their wings. The bears and other animals attended to his daily wants and supplied him with salmon and berries. The animals, birds, and fish were created by the Raven for the sole benefit of this heaven-born child. The Raven also kept the sun and the fire stick in a very strong and secure room, as he was afraid that his two former slaves would return and steal them.

Presently the slave wife of the Raven returned and begged to be readmitted into the Raven's society. The request was granted, and she became once more the mistress of the Raven's household. She took a great interest in the child and attended to his every wish. By this time the child had grown to be a handsome young man and began to love this woman. She reciprocated his love and at last resolved to become his wife. The Raven soon found that they were acting as man and wife, and he became very angry. He threatened to kill the woman. This threat caused the lovers to escape from the house and hide themselves in the bush. When they escaped from the Raven's house, they carried with them a large cedar box, in which the sun and the fire stick were placed. Day after day, and month after month, they wandered southward without proper nourishment and in great fear of the Raven. They also carried with them the box containing the sun and the fire stick.

One evening, faint and weary, they sat down near a little

creek, and the woman, being very hungry, wept bitterly. Her husband walked a little distance up the stream, and at last found a dead land otter, but could not eat it as they had no fire to cook it. Next morning, they remembered that they had the fire stick in the box that they were carrying. They determined to try it. The young man got it and instantly made fire, and the two cooked the body of the otter, ate it, and proceeded on their journey. When they reached Cape Ball, they were hungry again, but the young man began to sing some of the songs taught him in heaven, and the sea receded four miles from the shore and left one great whale stranded on the beach. The young man got rocks and stones, and carried them on his back to where the whale was, and barred it in, and thus described a circle around it that can be seen at the present day.

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Thus the wanderer, as the slave is now termed, is always busily engaged causing the berries and roots to grow for the support of the Haidas. Every plant, every flower, and every tree are under his control; and he it is that provides fine cedar trees on the islands, out of which the natives dig their canoes. The beasts of the forest, the fish in the sea, and the birds of the air are under his supreme control. At the present time he is fulfilling his destiny, and at times the Haidas think with gratitude of his goodwill toward them, and offer him sacrifices of berries, roots, salmon and bear-grease. These they put into hollow trees to provide a meal for their most unfortunate ancestor, should he require anything to eat. Thus he wanders upon the face of the earth both night and day, and must continue to roam apart from his descendants, until the end of all things. At the end of time, when the Raven shall become dissatisfied with the existing state of affairs he will recall him, and woe to the Haidas when he is recalled! for the trees and plants, the fish and animals, the fowls of the air, and even their country will most undoubtedly cease to be, and then shall the end of the Haidas come.

Mr. HARRISON has since contributed the following notes in reply to various questions raised during the discussion:—

Firstly. Many of the visitors to Queen Charlotte Islands are of the opinion that the ancestors of the Haida nation were blown out to sea from some of the harbours of Japan, and having lost all bearings were eventually driven across to the islands.

Quite recently Japanese junks have been found on the west coast dashed to pieces against the rocks. If their junks have been washed across to our shores there is no reason why junks manned by Japanese may not at an earlier date than the white man's knowledge of the Haidas have been successfully sailed or blown across by stormy winds. This has a tendency to confirm the opinion of those who believe that the Haidas originally came from Japan. At any rate they are a distinct race of people. Their language, also, is quite distinct, and has no resemblance whatever to the languages spoken by the neighbouring tribes on the mainland.

Secondly. Juan Perez was the first white man to discover the islands in 1774, and they were named by him Cabo de Saint Margarita. It is now one hundred and sixteen years since the Haidas first came into contact with our race. And for the greater part of this time they have been associated, not with the good, but with the evil.

Thirdly. The Haida months are:—

Kētas: September.—This month they get the cedar bark.

Kalk Kungas: October.—Ice moon.

Chā Kungas: November.—The bears paw the ground for roots.

Gwougiangas: December.—Too cold to sit on the beach this month.

Lthkittūn Kungas: January.—Goose moon.

Tān Kungas: February.—The bears begin to come out of their holes.

Yhītgaas: March.—Laughing goose moon.

Whītgaas: April.—Foreign goose moon.

Tāhellē Kungas: May.—The month of flowers.

Hānskilē Kungas: June.—The berries begin to ripen this month.

Hānalung Kungas: July.—Moon in which the berries are ripe.

Chīn Kungas: August.—Salmon moon.

Kishalsh Kungas.—Moon in which they smoke their salmon.

They always smoke their salmon between July and October.

There are twenty-eight days in each Haida month, and thirteen times twenty-eight make three hundred and sixty-four. The difference of one day between the Haida year and ours they

explain by saying that one day was spent by the Raven's slave in climbing the ladder of arrows to secure a heaven-born woman for his wife. This day must be reckoned at the end of the thirteenth month, and will then make their year to correspond with ours.

Fourthly. The medicine men were supposed to be in communication with Chief Cloud, and they alone were able to commune at any moment with the spirits of the departed, during their year's residence in the clouds, or in the domain of Chief Death. All wicked Indians were those who refused to obey their commands, and their spirits were taken possession of by Chief Cloud. The Haidas formerly placed the dead bodies on the highest branches of the spruce trees. If the medicine men were not well paid by the deceased man's relations they would go by night, take down his body from the tree, bury it in the ground, and then declare that Chief Cloud had sent the man's spirit to bring his body into the clouds to furnish him, *i.e.*, the Chief, with a meal.

Fifthly. The medicine man is the supposed possessor of all knowledge, not of the present world alone, but also of the world to come. He is able to turn himself into any animal at any time, and all diseases are subject to his incantations. At any moment he can commune with the spirits of the departed, and to him the enemies of the tribe must yield. Thus from the cradle to the grave the destinies of the tribe are subject to his whim, and consequently he ranks as a very great chief.

DISCUSSION.

Mr. BOUVERIE-PUSEY asked whether, according to the myths of the Haidas, any children were born to the women of heavenly origin spoken of in the paper, and whether any of their blood was supposed to remain in the existing human race.

Dr. TYLOR, Mr. GALTON, and Mr. LEWIS joined in the discussion, and the Author replied.

Miss BUCKLAND also contributed a Note on the subject of the Paper, which was read by the President.

NOTE by MISS A. W. BUCKLAND.

In my paper on "Traces of Pre-Historic Intercourse between East and West," published in the "Journal" for February, 1885, I called especial attention to some remarks by Mr. Wm. Dall in his extremely interesting and instructive article upon "Masks, Labrets, and certain Aboriginal Customs," published in the Third Annual Report of the Bureau of Ethnology, Smithsonian Institution. The point to which I particularly referred was the existence, as pointed

out by Mr. Dall, of a certain group of figures, so distinctive as to render it almost impossible that they could have had an independent origin in every place in which they are found. These figures represent a mau holding a frog, a lizard, or a snake; but generally one of the two first named, with both hands, the tongue of the reptile being attached to that of the man, as though the latter were receiving inspiration or some special endowment from his totem. Mr. Dall has traced these peculiar figures among the ancient sculptures in Central America and Mexico, among the Haidahs and Tlinkits of to-day, and among the extraordinary painted objects, fetishes, or dancing sticks of New Ireland, which appear to have their nearest affinities in the Shaman sticks of the Haidahs. These figures, which Mr. Dall supposes to be of Melanesian origin, appear very plainly in the elaborate wood carvings of New Zealand, as also in the Solomon Islands, and I have lately come across a Tartar story published in the "Archæological Review," May, 1888, which seems to extend the myth from which doubtless the figures originated, to the continent of Asia; and to connect it with a number of legends common all over the world, having reference to the acquisition of the language of animals. The story alluded to is thus given: "An old beggar who takes no thought for the morrow, throws daily into the sea the remains of his food, and upon the bread thus cast on the waters the fish grow fat. The thing comes to the ears of the lord of the fishes, who sends for the free-handed beggar to reward him. As the fish are conducting him through the sea to their lord, they say to him, 'The king of fishes will offer you gold and silver; do not take them, but say, "Let me kiss your tongue."' The fish king did as the fish had foretold. The beggar refuses the proffered wealth, and asks only to kiss the king's tongue. The king, after expostulating, allows the beggar to do so, but warns him that by this means he will receive a knowledge of the language of all creatures, which he must reveal to no one under pain of death. By overhearing the talk of two birds the beggar discovers a treasure which makes him a rich man."¹

There are a great number of stories given by Mr. Frazer in the article from which I have quoted, in which the language of animals is acquired chiefly by the eating of white snakes when *cooked*, and these snakes are usually in some way connected with the hazel tree; but sometimes the gift of understanding the language of animals is attained, as in the story given above, or by receiving something, such as a plant or the serpent-stone from the mouth of the white serpent; but in all cases it is necessary that the flesh, or the broth in which it is cooked, should touch the tongue, being in most of these tales conveyed accidentally to the mouth by the finger; and, it has been suggested that this is in some way connected with the figure of Harpocrates, which seems not altogether improbable from the constant recurrence of the obligation of silence with regard to the acquired gift, on pain of death.

¹ "The Language of Animals," J. G. Frazer, "Archæological Review," May, 1888.

The embodiment of these legends in the curious carvings before referred to, in such widely separated countries as New Ireland, New Zealand, among the Haidahs and Tlinkits, as well as in ancient Mexico and Central America, is certainly a very singular fact. In the American specimens there is always some connection with the rites and dances of the Shamans or medicine men.

Among the Haidahs and Tlinkits, Mr. Dall says these carvings belong particularly to the Shaman, and are characteristic of his profession; but they are not confined to the rattles, but appear on totem-posts, fronts of houses, and other objects associated with the medicine man. It would be interesting to know whether this applies also to the New Zealand and New Ireland specimens. Medical knowledge has an evident connection with the Asiatic and European legends, in which men become great doctors by attaining the language of all things living in the manner described, for the beasts and herbs are represented as proclaiming their several medicinal virtues to the initiated.

According to the American myth, "the young man who aspires to become a medicine man, goes out into the woods, after fasting for a considerable time, in order that his, to be, familiar spirit may seek him, and that he may become possessed of the power to communicate with supernatural beings; if successful, he meets with a river otter, which is a supernatural animal. The otter approaches him and he seizes it, kills it with a blow of his club, and takes out the tongue, after which he is able to understand the language of all inanimate objects, of birds, animals, and other living creatures. He preserves the otter's tongue with the utmost care in a little bag hung around his neck. The skin he also preserves, and it forms an important part of his paraphernalia."

"This ceremony, or occurrence," continues Mr. Dall, "happens to every real medicine man. Consequently, the otter presenting his tongue is the most universal type of the profession as such." And he adds, "The remarkable form of carving, namely, that representing a figure with the tongue out, and communicating with a frog, otter, bird, snake, or fish, is one of the most characteristic features of the carvings of the people who live between Oregon and Prince William Sound."

In conclusion, I would wish to point out that almost all the animals connected with this curious myth and the carvings in which it is embodied are water animals, or amphibians, and even when birds are represented they are such as draw their sustenance from the water.

A. W. BUCKLAND.

Mr. GALTON read a paper on the Anthropometric Laboratory at South Kensington.

¹ "Masks and Labrets," W. H. Dall, Smithsonian Institution Bureau of Ethnology Annual Report, 1881-82.

RETROSPECT OF WORK DONE AT MY ANTHROPOMETRIC
LABORATORY AT SOUTH KENSINGTON.

By FRANCIS GALTON, F.R.S.

It was mentioned at the last meeting of this Institute that my Anthropometric Laboratory had been closed, owing to the previously unoccupied ground on which it was permitted to stand having become the property of the Imperial Institute, and being placed in the hands of their builders. Since then, however, the authorities of the South Kensington Museum have placed a larger and better lighted space under their own roof at my disposal. It is now in an unfinished state, but I hope to re-establish the laboratory before long, and in the meantime I will take this opportunity of saying a few words in retrospect.

My principal object in establishing the laboratory was to familiarise the public with the methods of anthropometry, and at the same time to register facts that might hereafter be of use in individual life histories. As regards this it was successful. The number of different persons each measured in many and various ways during the three years of its existence is 3,678, but the same person has often been measured repeatedly. So the total number of sets of measurements all made by the same person, its Superintendent, Sergeant Randall, is considerably greater than the above figure. Persons of all ranks went to it, a knowledge of its existence was extending, and it was becoming increasingly frequented up to the day of its closure. Many correspondents in the United Kingdom, in America, and elsewhere, have more or less adopted its methods, and it was, I may add, a great consolation to me to receive on the very day that I began to dismantle it, the proof sheets of the register, and other forms in many respects like my own, that are to be used in the laboratory at Dublin, which has been set on foot through the efforts, and will be carried on under the superintendence, of Professors Cunningham and Haddon.

The data collected at my laboratory have been of service in many ways, of which I will mention a few. They enabled me to work out in some detail (the results are not yet published) the subject of correlation between various bodily attributes, as between the length of different limbs, between stature and strength, weight and lung capacity, and very many other related measures. This was done on an entirely new principle, described in a memoir read before the Royal Society two years ago ("Proceedings, Royal Society," vol. xlv, p. 135), and alluded to here in my Presidential Address in 1889. It is too

technical a subject to enter into now; I need only say that it deals with entire systems of possibilities, and not with mere averages which, as I have shown, lead to erroneous results, and that it reduces all forms of correlation, including hereditary qualities, to one simple law, namely, that of the relation between two variables partly dependent on a common set of influences.

The exact value of anthropometric measurement as a clue to personal identification on the system of M. Alphonse Bertillon, admits of being tested in some essential respects by the measures already obtained at the laboratory. I have done so to some degree, but postponed a more minute inquiry until more experience should have been gained. What has been, or can be done with the materials in hand is this. First, as to the sufficient variety among adults to afford a satisfactory basis for classification, having due regard to the limitations introduced by correlation. Secondly, as to the changes during youth and early manhood in the size and proportions of the body, and especially of the head. Thirdly, in respect to the precision of measurement as affected by temporary changes in the size of the parts measured, and by fallibility on the part of the measurer. I should speak technically if I entered further into detail, and can therefore only add that the inquiry is full of interest in a purely scientific sense, quite apart from its important practical bearings.

As an allied inquiry to this, I was able to utilise the laboratory for an investigation into the curious patterns seen in finger marks, which are caused by the embranchments of papillary ridges. I have recently read a memoir on this subject before the Royal Society, which is on the point of being published in their "*Philosophical Transactions*." It turns out that these minute ridges are unexpectedly instructive and important. The patterns are seen to fall of a necessity into a small and definite number of distinct classes; it also appears that these classes resemble the genera or species of plants and animals, in that the individual forms of each genus which depart but little from the ideal average of all of the individuals of that genus, are far more numerous than those which depart from it more widely. It follows that although very wide departures from the average may be possible, yet that even much less wide departures are so rare as to be practically non-existent. It is argued that we have here an instance in which natural selection, whether sexual or other, has had no influence in moulding the patterns, and yet that a result which is exactly similar to that which can be produced by their influence has been attained through the agency of internal causes alone. The important conclusion

is inductively drawn from this, that natural selection cannot justly claim a monopoly of influence in the manufacture of species, but that internal causes are by themselves able to create them. I have shown elsewhere ("Natural Inheritance," pp. 119-123), the way in which these two distinct influences may co-operate. Proceeding further with the same subject, I procured and have been able to minutely compare the impressions made in ink by the same finger at the beginning and end of periods of many years, as from childhood to youth, from boyhood to early manhood, from early to late manhood, and from manhood to incipient old age. I find from twenty to forty definite points of comparison in each couplet of finger marks. In eight such couplets that are photo-lithographically reproduced on an enlarged scale in the memoir just alluded to, there is a total of 296 points of comparison, and not one of them failed to appear in both impressions. Hence it appears that peculiarities in the lineation, made by the papillary ridges of the palms of the hand, and as I infer in the sole of the foot also, are by far the most permanent of all external human peculiarities and the surest known means of personal identification.

Some tables of growth and development have been calculated from the data collected at the laboratory, and an attempt has been made to compare the physique of persons and of different professions, &c., so far as the paucity of the numbers admitted.

The experience of the laboratory has also been of considerable service in estimating how far it was practicable and advisable to introduce physical tests into competitive examinations.

Latterly I have been collecting data bearing on the symmetry of the two sides of the body, but too little has been done to deserve more particular mention.

In brief, what little has been accomplished at the laboratory during the three years of its existence justifies to my own mind the trouble and expense I have been put to in building, equipping and maintaining it. But it never reached to my ideal. Besides the objects already named, I was almost equally desirous of establishing a place where the keenness of the senses and other faculties in any individual who applied, might be measured with all the accuracy and painstaking that is achieved by the few biologists who occupy themselves seriously in such pursuits. To effect this, it would be necessary to secure the occasional services of a skilled experimenter and to ensure at the same time that a sufficiency of persons should come to be measured. The time did not seem to have arrived for such an enlargement of the existing methods, though I hoped and still hope that it may not be far distant, as the utility of the laboratory becomes more widely appreciated. The measurements that have thus far been

employed are of a comparatively rude but not ineffective character.

It would give me pleasure at any time to receive suggestions as to new and useful special inquiries, such as might be carried on and brought to conclusion without a too serious expenditure of time and effort.

Professor CUNNINGHAM gave an account of the Anthropometric Laboratory in Dublin, founded by himself and Professor HADDON.

The ANTHROPOMETRIC LABORATORY of IRELAND.

By Professor D. J. CUNNINGHAM, M.D., and Professor A. C. HADDON, M.A., F.Z.S.

WE had not intended making any formal communication to the Anthropological Institute upon the anthropometric work which we propose to carry out in Dublin until this work had been actually commenced and we had some results to show. But Mr. Galton, who has given us at every stage of our preparations the greatest encouragement and the fullest assistance, thought that it might be of advantage to our new laboratory and not without interest to the members of this Institute, if we were to give a brief account of the steps we have already taken to introduce anthropometric work into Ireland, and also to state the chief objects which we have in view in so doing.

We need hardly explain in this Institute where the important and interesting results obtained by Mr. Galton in this field of inquiry have been so largely made known, that it was these that stimulated us to endeavour and do likewise in Ireland.

Anthropometric work may be made to serve many purposes, but there are two which seemed to us as specially desirable in our own case. It is very questionable whether any university or other educational institution should be regarded as being thoroughly equipped without such a laboratory. Mr. Venn, of Cambridge, has shown us how interesting the results are which may be obtained from an examination of students alone. In all our great centres of education we have the most intricate and elaborate machinery for testing the mental capacity of a student, and for estimating his standard of knowledge in different branches; but so far as I am aware, only in Cambridge and Eton are there any means in this country by which his physical endowments can be ascertained and their gradual development watched. And yet these are qualities which, in

most walks of life, are of scarcely less importance to the individual than the intellectual. We look forward with interest to the time when Mr. Galton's scheme for the awarding of marks for the physical efficiency of candidates competing for public appointments will come into general operation.

Entertaining these views we naturally have decided to commence our operations upon the students in Dublin. Already the authorities of Trinity College are interested in the project, and with their aid we shall endeavour to make it a general custom for every student as he enters college to visit our laboratory, and to continue doing so at the end of every six months during his University career. Measurements and tests applied in this way should furnish us with most valuable data.

But the second object which we have in view is the one which we are most anxious to develop and in the pursuance of which we expect to obtain the most valuable results. The physical anthropology of Ireland is almost an untrodden field. Little or no systematic work has as yet been undertaken in this direction, and yet there is no part of the United Kingdom which promises a richer harvest for the investigator. Anyone who has travelled through the country districts must be familiar with the very different types which are presented by the inhabitants. This is especially the case in outlying portions of the west coast and in the islands off the mainland. To take one example: the fair slight men of the North Island of Arran offer a marked contrast to the dark burly men of the Middle and South Islands. Then again, we have in Ireland certain very old colonies. These ethnical islands, if we may so term them, require to be very carefully studied, and will no doubt afford valuable information concerning the persistence or otherwise of racial characters.

It has therefore occurred to us that we might employ the anthropometric methods for the purpose of giving some assistance to the anthropologist in his endeavours to unravel the tangled skein of the so-called "Irish Race." With this end in view it is our intention when once we have fairly started to take excursions during the Long Vacation into the country, and with our apparatus, pitch our tent in different districts until at last we or our successors shall have traversed the entire extent of Ireland. We are already familiar with the migrations of Mr. Galton's laboratory, following as it generally does the British Association. We merely propose then upon a somewhat more extended scale to adopt the same peripatetic principle.

With our objects thus clearly defined we approached the Royal Irish Academy, and the Council at once granted a sum of money to a committee composed of Dr. Haughton and our-

selves for the purchase of instruments. The authorities of Trinity College then sanctioned the use of one wing of the handsome museum of Comparative Anatomy for laboratory purposes, and gave instructions that it should be fitted up also as a small Anthropological Department. We are now nearly ready to open the laboratory. The formal opening will take place on the 25th of June, but we hardly expect to make much progress in the work until the end of the Long Vacation.

DISCUSSION.

Dr. WILBERFORCE SMITH believed that considerable gain of accuracy might be got out of the circumstance mentioned by Professor Cunningham, that students would be especial subjects of experiment. For the results of an anthropometric laboratory were liable to be damaged by the fact that the individuals who presented themselves did not constitute natural groups, but came of their own free will. And it was with the speaker a matter of experience amongst his own patients, that capable persons such as athletes took an especial interest in undergoing measurement, whereas comparatively feeble persons such as those leading sedentary lives had little inclination thereto. Thus, on the whole, the results obtained probably furnished slightly too high a standard of physical fitness. In illustration of this tendency, they might compare the records of breathing capacity obtained by Dr. John Hutchinson half a century ago with those obtained a few years ago at the Health Exhibition. Hutchinson's cases consisted of groups of men such as policemen, soldiers, &c., whereas the persons examined at the Health Exhibition appear to have come simply at their own discretion. The mean results in both series were parallel, and had a constant relation to stature, but the breathing capacity of the Health Exhibition series was constantly a little higher in relation to stature, than that of Hutchinson, a difference which might be reasonably attributed to the different method of obtaining subjects. Now, in the case of students it would not be difficult to obtain complete groups. His own experience impressed upon him the importance of arriving at some agreement amongst persons engaged in anthropometry, as to methods of investigation which would give results capable of being accurately compared. It was probably a feeling of this kind that had induced Professors Cunningham and Haddon to give the Anthropological Institute of London the opportunity of hearing what was projected in Dublin. In the single instance of the spirometer he had reason to believe, after experiments extending over some years, that there was need of some fuller assurance than at present existed that the apparatus in use would give uniformly accurate results. The factor of resistance in the instrument to the current of expired air had not been sufficiently considered.

Mr. WALTER COFFIN, Dr. GARSON, Mr. GALTON, and Professor FLOWER took part in the discussion.

THE DUBLIN ANTHROPOMETRIC LABORATORY.

		Date of Application.		
		Day.	Month.	Year.
Signature } in full.				Page in Register.
				18
Address } when at home, in full.		Age last birthday, {		Have you been measured here before? Yes or No? }
Date of Birth, }		Occupation (if a Student, in what branch?)		Were your Father and Mother first Cousins?
		Year.		Yes or No?
Surnames,		Day of Month.	Month.	Year.
		Surname of your Mother before she was married.		What district do your Father's people come from?
		Surname of your Father if different from your own.		Your Mother's.
Have your Father's people occupied that part of the country for } long: if not, state what you know of their original locality,				
Have your Mother's people occupied that part of the country for } long: if not, state what you know of their original locality,				

The Laboratory is in the Museum of Comparative Anatomy, Trinity College, Dublin. The Laboratory is open to the Public from 2 to 4 p.m., on Tuesdays, Thursdays, and Saturdays.

One page of the Register is assigned to each person, in which his measurements at successive periods are entered in successive columns. A copy of these made at any specified date may be obtained on application by the person measured, or by his or her representative on receipt of a stamped envelope.

Professor CUNNINGHAM exhibited and described the skull and some of the long bones of the Irish giant, Cornelius Magrath.

*The SKULL and some of the other BONES of the SKELETON of
CORNELIUS MAGRATH, the IRISH GIANT.*

By Professor D. J. CUNNINGHAM, M.D., F.R.S.

THE skeleton of Cornelius Magrath has been preserved in the Trinity College Museum, Dublin, for 131 years. The height is 7 feet 2½ inches, although it is questionable if Magrath was quite so tall during life.

There is reason to believe that during life Magrath suffered from acromegaly. This opinion is based upon the following grounds:—

1. The disproportionate size of the face in relation to the cranium. This increase is present not only in the maxillary, but also in the mandibular part of the face, and as a result we have an excessive depth of the orbital openings of the nasal fossæ and of the maxillary air-sinuses. The extraordinary size of the mandible is particularly suggestive.
2. The great size of the mastoid processes and the great expansion of all the air-sinuses of the skull.
3. The enormous hypertrophy of the pituitary body as evidenced by the great expansion of the pituitary fossa.
4. The evidence obtained from records of Magrath that both hands and feet were exceedingly large during life, although the bones show no trace of this hypertrophy.

But the determination of the condition is rendered peculiarly difficult from the fact of these changes being present in an individual of so great a stature as Magrath. Virchow entertains the view that there is no connection whatever between the partial giant-growth which is seen in ordinary cases of acromegaly and general giant-growth, and yet, if we study the characters of the skeleton in individuals of high stature as given by Langer, we perceive many points of correspondence. The latter author tells us:—

1. That in the skulls of all giants the mandibular region is relatively large, and in most the lower jaw is "monstrous." Further the lower jaw frequently exceeds the maxilla in its growth, so as to produce a

- great projection of the chin, and to bring the lower teeth in front of the upper teeth. He figures such a skull.
2. That the increase in growth of the giant's skull affects as a rule only the facial portion. As a consequence of this the cranium remains small whilst the face becomes enlarged. He considers, however, that this excess of growth of the face is limited to its lower part, and does not affect the orbital openings nor the upper part of the nasal cavities.
 3. That in typical cases of general giant-growth there is found a swelling of the pituitary body, whereby the fossa becomes expanded, and also a hypertrophy of the soft parts of the face, *e.g.*, the lips and alæ of the nose. The expansion of the pituitary fossa he has chiefly observed in cases where the mandible was of enormous size.

These observations of Langer have an important bearing upon the question under consideration, and I believe that they point to some kind of connection between acromegaly and general giant-growth. Of course a disproportion between the face and the cranium may be brought about in two ways. It may be produced by an excessive growth of the facial bones whilst the cranium maintains its normal standard. This is the true acromegalic disproportion. But it may also be brought about by a failure on the part of the cranium to keep pace with the general growth of the other parts of the body. In this case the growth of the face goes on independently and in harmony with the general growth of the individual. This is the manner in which the disproportion peculiar to giants is produced. The results are precisely the same, and yet the manner in which they are brought about is different.

But even accounting in this way for the same form of skull occurring in the two cases, how can we explain the fact that in acromegalic patients, and in giants we have the same tendency to expansion of the pituitary fossa and excessive growth of the mandible? We can only do so by supposing that to a certain extent we have the 'same growth influences present in each. Langer is not the only author who has drawn attention to this exaggerated mandibular growth in giants. Topinard also refers to it.

DISCUSSION.

Mr. WALTER COFFIN referred to a very pronounced case of acromegaly confined to the lower jaw, commencing in middle age, in a patient of only average stature.

Professor FLOWER and Dr. GARSON also made some remarks.

MARCH 10TH, 1891.

EDWARD B. TYLOR, Esq., D.C.L., F.R.S., *President, in the Chair.*

The Minutes of the last meeting were read and signed.

The election of B. LORD, Esq., of Warley Grammar School, was announced.

The following presents were announced, and thanks voted to the respective donors:—

FOR THE LIBRARY.

- From the ANTIQUARIAN COMMITTEE.—Sixth Annual Report to the Senate of the University of Cambridge. November 26th, 1890. 4to.
- From the AUTHOR.—Sculptured Anthropoid Ape Heads from Oregon. By James Terry. 4to. New York, 1891.
- Etruschi, Sardi e Siculi nel XIV° Secolo prima dell' era volgare. By Ferdinando Borsari. 8vo. Naples, 1891.
- From the PUBLISHER.—Modern Customs and Ancient Laws of Russia. By Maxime Kovalevsky. 8vo. London, 1891.
- D. Nutt.
- Offener Brief an Professor Dr. Gustav Meyer in sachen der Ägyptisch-Indogermanischen Sprachverwandtschaft. Von Professor Dr. Carl Abel. 8vo. Leipzig, 1891. W. Friedrich.
- From CUTHBERT E. PEEK, Esq.—The Publishers' Circular. Vol. liv. No. 1287.
- From the EDITOR.—Nature. Nos. 1113, 1114.
- Revue Scientifique. Tome xlvii. Nos. 9, 10.
- Science. Nos. 420, 421.
- From the ROYAL UNITED SERVICE INSTITUTION.—Journal. No. 157.
- From the CANADIAN INSTITUTE.—Transactions. Vol. i. Part 1.
- From the BENGAL ASIATIC SOCIETY.—Journal. Vol. lviii. No. 302. Proceedings. 1890. Nos. 4-8.
- From the ROYAL GEOGRAPHICAL SOCIETY.—Proceedings. Vol. xiii. Nos. 2, 3.
- From the ROYAL SOCIETY.—Proceedings. Vol. xlviii. No. 297.
- From the ROYAL SOCIETY OF NEW SOUTH WALES. Journal and Proceedings. Vol. xxiv. Part 1.
- From the SOCIETY OF ARTS.—Journal. Nos. 1997, 1998.

From the SOCIETY OF ANTIQUARIES.—Proceedings. Vol. xiii.
No. 2.

From the SOCIETY OF BIBLICAL ARCHÆOLOGY.—Proceedings. Vol.
xiii. Part 4.

Mr. CHARLES H. READ exhibited some objects from the Pacific Islands and the West Coast of America, collected during the voyages of Vancouver. Mr. LISTER and Dr. TYLOR joined in the discussion.

Mr. J. J. LISTER read a paper on the Natives of Fakaofu.

NOTES on the NATIVES of FAKAOFU (BOWDITCH ISLAND). UNION
GROUP.

[WITH PLATES I TO IX.]

By J. J. LISTER, Esq.

THE Union Islands lie in the South Pacific Ocean some 300 miles north of Samoa.

They consist of four islands, viz.—*Atafu* (Duke of York Island), *Nukunono* (Duke of Clarence Island), and *Fakaofu* (Bowditch Island), which are situated in a line from N.W. to S.E.—the two former rather less than 50 miles apart, the two latter rather less than 30. The fourth island, *Swain Island*, lies some 100 miles to the south of Fakaofu. Atafu and Nukunono were discovered by Admiral Byron in 1765, Fakaofu by the United States Exploring Expedition, under Commodore Wilkes, in 1841. Swain Island is said to have been discovered by Quiros in 1560. He named it *Gente Hermosa*—from the beauty of the inhabitants. There are no native inhabitants now, but bones, and stone implements, and slabs of stone set up on edge have been found there. The people of the neighbouring islands call it *Olosenga*.

The islands were visited by Commander Oldham, R.N., in H.M.S. *Egeria*, in June, 1889, and on the three northern ones the British flag was hoisted, and they were declared to be under British protection. On this occasion a stay of only a few hours was made at each island, but in August the *Egeria* returned to Fakaofu and stayed ten days while a careful survey was made.

Owing to the kindness of Captain Wharton, R.N., F.R.S., the Hydrographer, I was in the *Egeria* at the time, in the capacity

of naturalist, and had the opportunity of making the following notes :—

The three northern islands are regular coral atolls or ring islands, consisting in each case of a somewhat pear-shaped ring of reef completely enclosing a lagoon (Plate I). At Fakaofu and Nukunono the lagoon is about 7 miles in its longest diameter, at Atafu about 4 miles. Numbers of low islets varying in length from a few yards to a mile or more, are situated on the ring of reef, and these support an abundant vegetation of cocoanuts and other trees. The islets are most numerous and largest on the eastern (windward) sides of the atolls.

The natives of Atafu and Nukunono are of the same race as those of Fakaofu, though there appears, from what I was told, to have been more intermixture of white blood in them.

Each island has a white or half-caste trader living on it, who buys the "copra" (dried cocoanut kernel) from the natives for the New Zealand firm he represents. The trader at Fakaofu is Mr. Polsen. He is a native of Schleswig-Holstein, but speaks English perfectly. Mr. Polsen was interested in reading mathematics. It was curious on going into his house in this out-of-the-way island to see the familiar backs of Todhunter's "Euclid" and "Algebra," and Tables of Logarithms arranged along his book-shelf. I am greatly indebted to him for the assistance he gave me in interpreting to the natives. His wife and two of the older women of the island were the source of almost all the information relating to the traditions of the people, contained in the following notes. Nothing pleased these ladies better than to be summoned to the verandah of Mr. Polsen's house and to be asked questions about the beliefs and customs of the people before the introduction of Christianity, which occurred about twenty years ago. Plate VI represents them adorned with cocoanut leaves to show the decorations of the old times. The method of eliciting information was as follows :—I asked my question of Mr. Polsen in English, he passed it to his wife in Samoan, the matter was discussed in the Fakaofu speech, and the answer returned to him in Samoan, to come back to me in English. I am well aware that this method of obtaining information is liable to error, and my excuse for offering these necessarily imperfect notes is that the beliefs and customs with which they largely deal exist only in the recollection of a few of the older generation of the natives, and will die with them.

Most of the natives of Fakaofu were pleased to be taken under British protection. On our first visit they did not seem to grasp the situation, but on the second they were evidently highly gratified, and very anxious, even for Polynesians, to produce a good impression.

A dance was performed in honour of our visit (the dances have been in abeyance since the coming of the missionaries), and a present of cocoanuts and fish was made (Plate VIII). I extract the following account of this function from my journal:—

"It took place on the open shingly space in front of the Samoan missionary's house, where we were gathered. The crowd of natives, almost the entire population of the island, were assembled on the left. They advanced with slow steps chanting some kind of song; first came a small child crowned with a wreath and carrying a green cocoanut, then two children side by side, who also carried cocoanuts, then the whole body of the people, old men first, then young men and women, most of them with green wreaths and girdles, made in many cases of the tangled stems of the green dodder-like *Cassytha*, which is abundant in the islands. They carried cocoanuts, fish, and some roots of a coarse kind of taro (arrow-root).

"A halt was made before they came in front of the house, and a few of the younger men came forward with stakes—instead of clubs—which they brandished about with more vigour than skill. Sometimes they lost hold of their twirling clubs, and away they flew—fortunately doing no damage. The whole thing was, we understood, the revival of a 'heathen' ceremony, permitted by the king for this special and so important occasion, when their island had become part of the British Empire. The procession then moved past the house and returned, throwing down their gifts on the coral shingle. Then a grey-headed old man made a long speech, with short abruptly finished sentences, in which one detected the mannerism of the missionary preacher, saying—as we were afterwards told—how small the gifts were, and reminding us that we had come to a very poor little island, the people of which were ignorant and as the dust of the ground beneath our feet; and more to the like effect. To this Mr. Polsen replied on our behalf. Then a dance was performed, in which four old men alone took part, while the old women beat time and chanted an accompaniment.¹ The dancers advanced in single file, and in a spiral course, stepping and executing grotesque gestures in time with the song. As they advanced they became more excited, and ended with a loud shout, given all together.

"The children were much amused at seeing these reverent seniors cutting such unwonted capers."

Physical Characters.—In their general appearance the natives looked very like Tongans or Samoans. They were well made

¹ The younger generation has grown up in ignorance both of the dances and the songs that accompany them.

and well nourished people. What struck me in their appearance was the great breadth of the lower part of the face at the angles of the jaw.

Measurements.—I took measurements of 13 men and 6 women. The results are given in the following table,¹ with those of 13 Tongan men for comparison. (I happen to have measured the same number of men in both places.)

		Fakaofu (men).	Tongan (men).	Difference.	Fakaofu (women).
Percentage to stature	Stature in inches	67·98	67·66	·32	
	{ Chest girth	59·2	53·5	5·7	55·4
	{ Arm span	108·7	104·2	4·5	103·6
	{ Finger patella index	4·8	7·3	2·5	6·1
	{ Upper limb	34·6	32·8	1·8	33·7
	{ Lower limb	50·1	48·9	1·2	49·7
	{ Intermembral index	69·05	67·	2·05	67·8
	% Forearm to arm	87·08	88·9	1·82	87·1
	% Leg to thigh	75·7	74·9	·8	75·5
	% Cephalic index	80·2	84·76	4·56	82·88
	Facial angle	105°	104°9'	1°	104°2'

The most striking feature appears to be the great length of arm and girth of chest of the Fakaofu people. The great length of the arm is seen in the actual measurement of the upper limb, and is borne out by the high figure reached by the arm-span, the very low finger patella index, and the high intermembral index. The high proportion of the arm-span is the result of the large chests combined with the long arms.

¹ In the table the terms 'arm' and 'leg' are used in the anatomical sense; the *arm* being that part of the upper limb between the shoulder and elbow, the *leg* the part of the lower limb between the knee and ankle.

The measurements of the limbs were taken from the following points—

Upper Limb—

- (1) A point half an inch outside and on the same level as the coracoid process.
- (2) The middle of a line joining the junction of the radius and outer condyle of the humerus with the inner condyle.
- (3) The middle of a line on the front of the wrist, joining the tips of the styloid processes of radius and ulna.

Lower Limb—

- (1) A point on the front of the thigh, on a level with the middle of the line between the great trochanter and the anterior superior process of the ilium.
- (2) A point over the ligamentum patellæ, level with the external tuberosity of the tibia.
- (3) A point on the middle of the bend of the ankle, over the junction of the tibia and astralagus.

For the cephalic index the greatest length of the head was measured from a point between the eyebrows to the most projecting point at the back of the head.

The small figure attained by the finger patella index (in one man the tip of the middle finger was *only one inch* above the upper margin of the patella) is the result of three factors: (1) the long arms (2) the short thighs (this appears in the proportion of the leg to the thigh—8 per cent. more in a native of Fakaofu than in a Tongan), and (3) the comparative shortness of the spine in proportion to the height—which appears in the comparison of the length of the lower limb with the height.

Thus, though the legs are long in proportion to those of a native of Tonga, the arms are much more long and the chests are very large.

The number of women measured (six) is perhaps too small to make the averages of the measurements of much value. So far as they go, they appear to show that the women have big chests and long arms, though in a less degree than the men.

It seems possible that the great development of the arms and chests of the natives of Fakaofu may be associated with the very peculiar conditions under which they live. To meet almost every need of their lives they must take a journey in a canoe; and the heavy work of this nature would be done, as usual among the Polynesian races, by the men. Their houses are crowded together on one of the smallest islets, which is one of the few situated on the leeward side of the atoll; while the plantations of cocoanuts, yams and taro, are on the other islands—mostly on the windward side. Hence, a visit to these plantations means a canoe journey of at least six to eight miles—poling over the shallows, and paddling across the deep water of the lagoon.

On the other hand, for fish, which constitutes the other main staple of their food, a trip to sea is needed.

The action of paddling, unlike that of rowing, is done entirely with the arms and body, the legs being folded together beneath the seat.

The natives of Fakaofu have lived so long on their island, that, as stated elsewhere, I could hear of no tradition of their originally having come from another place; they supposed that their first parents sprang from the coral stones of Fakaofu.

May it not then be possible that the great length of arms and size of chest of the present race are the result of the peculiar conditions under which so many generations have lived?

I much regret that I have not a larger series of measurements, and especially of women and children, to offer. It was not till after we had left the island for good, that I worked out the percentages of my figures and became aware of the peculiarities presented by the people. There are, of course, many other small communities in the Pacific, living under

similar conditions, and it would be a matter of great interest to know whether these people present similar peculiarities to those of the natives of Fakaofu.

I obtained three skulls of natives from the piece of ground belonging to Mr. Polsen. The king, whose permission I asked, made no objection to my taking them. These are now in the collection at the Royal College of Surgeons.¹

Colour.—The colour varies a good deal in different individuals. This, I was told, was not due to intermixture of foreign blood; the paler or darker shade went in families.

I copied the colour of five individuals who represented the varieties of shade. On comparing these with M. Broca's colour types, given in *Anthropological Notes and Queries*, I find that the darkest nearly matches No. 29, but is slightly redder. Two others are distinctly lighter and brighter in colour, between Nos. 29 and 31. The remaining two which were copied from women are much paler, falling between 31 and 32 in the less exposed parts of the skin, and deepening to a browner shade than 31 on the top of the forehead and the outer aspects of the arms. These were, however, exceptionally pale women.

In the neighbouring island of Atafu, where the people are of the same race, we saw a girl who was an Albino. Her hair, eyebrows, and eyelashes, were pale yellow, but the irides were greenish brown.

The normal people have the irides dark brown, with a darker ring at the outer margin.

The *hair* is black. It varies a good deal in growth; in some people it was straight, in others wavy.

Diseases.—*Elephantiasis* is frequent among them. By far the most common disease is the skin affection known as the "*Tokelau Ringworm*." I should think that more than half the population is affected in this manner generally in large patches, but frequently investing a whole limb and in some cases covering the whole body except the scalp.

Language.—Hale, who visited the island with the United States Exploring Expedition in 1841, found that he was able to understand a good deal of the speech of the people from a knowledge of Samoan. The Samoan interpreter they had on

¹ Professor Stewart has kindly furnished me with the following measurements—

YAOPUKA, ♂, *æt.* 50 (circ.), *Fakaofu*. C., 530; L., 188; B., 147; Bi., 782; H., 142; Hi., 755; BN., 104; BA., 102; Ai., 981; Nh., 59; Nw., 27; Ni., 458; Ow., 43; Oh., 37; Oi., 860; Ca., 1590.

LANGITASI, ♂, *æt.* 60 (circ.), *Fakaofu*. C., 525; L., 188; B., 137; Bi., 729; H., 141; Hi., 750; BN., 104; BA., 99; Ai., 952; Nh., 58; Nw., 28; Ni., 483; Ow., 42; Oh., 37; Oi., 881; Ca., 1650.

board was able to understand them when he had become used to inserting the K sound (thus Samoan Fa'aofu = Fakaofu) and one or two other similar changes.

In this respect as well as in the substitution of H for S in Samoan the Fakaofu speech resembles Tongan. I found on reading some of the sentences which I wrote down in the Fakaofu speech to an oldish man in Tonga that he understood them. It is more like the old Tongan—of which examples are given in *Mariner*—than the modern Bible Tongan of the missionaries.

Mr. Polsen told me that he had received a parcel from New Zealand done up in a Maori newspaper. His wife on looking at this found she was able to make out something of it, and when he pointed out certain constant changes, as *f* into *wh*, e.g., Maori *whare* = Fakaofu (*Fale*, a house), she was able to gather the gist of a story the paper contained.

Only the old people use the Fakaofu speech now, the young ones are taught to read in Samoan, and this is the language used in church.

Gestures, &c.—As in Tonga one sees people raising the eyebrows for an instant, whilst making an affirmation; and if the reply amounts to a sentence they are raised several times whilst it is uttered.

The head is shaken in negation. Beckoning is effected by a downward movement of the raised arm, the palm of the hand being carried towards the beconer.

I noticed a curious sound used to threaten children. When a child hesitated to carry out an order, the person who gave it uttered a sound (the terminal sound of the letter N) at first very low, gradually and slowly ascending the scale. By the time it had reached a moderately high note, the effect was so serious that the child, unless it was very naughty, became obedient, and went about its business.

I saw two boys quarrelling, which was not a common event. The matter did not come to blows. They stood perfectly still some distance apart, looking at one another under lowering brows for several seconds. Then a quick threatening movement on one side would be responded to by a defiant one on the other, and then followed another spell of mutual inspection. These became longer and longer, and the threatening movement less and less energetic until they each went their own way, and the incident was over. The whole was conducted in perfect silence.

Mythology.—My enquiries into the old mythology resulted in the following information:—

Tui Tokelau, "the ruler of Tokelau," was the chief of the gods, and ruled on earth and in the sky.

He was also present in the stone which stood in the centre of the island.

This is described in the narrative of the Wilkes' expedition as being ten to fourteen feet high, and wrapped round with mats. The stone is said to have been broken in pieces by the first white missionary. A large piece of it used to lie about when Mr. Polson first came—it has since been used in building up the side of the island. He said it was not carved.

Good and bad fortune and diseases were sent by the Tui Tokelau; the bad fortune came as punishment for failure in the proper observances in his honour.

Sick people were washed with cocoanut water, some of which had previously been sprinkled over the stone.

If a person wished to die, he would crawl to the foot of the stone and remain there. His friends might bring him food and he might eat it, but in the course of two or three days he would die—and people had been known to die in this manner, so great was the power of their belief.

If a good haul of fish was taken, part of it would be offered before the stone by the king, and afterwards it was distributed among the Taulaitu¹—the priests.

A yearly feast was held in honour of the Tui Tokelau, and the people of Nukunono and Atafu came over with offerings of mats and pearl shells—the mats being hung to the masts of the ships as they approached, to display them. When they landed, the mats were wrapped round the stone, to remain until they rotted away, and the pearl shells were placed along the eaves of the house sacred to the god, close at hand. (Hale describes the stone wrapped round with mats, and the pearl shells hanging from the eaves of the house. There is a picture of the house in Commodore Wilkes' account.) The stone was anointed with cocoanut oil scented with flowers; then the king was carried in front of the stone, seated in his chair, with the cocoanut leaf emblem of royalty round his neck,² and a black line of charcoal drawn over his forehead—the people following in procession with shouts of "*Tu-tu*" and general rejoicing.

Turner³ gives some details of the beliefs of the natives of Fakaofu, which he obtained from a boy belonging to the island, who had attended the missionary schools in Samoa. He says that *fire* was regarded as sacred to the Tui Tokelau, and it was

¹ Taula, a priest; Samon, *taura*; Hawaiian, *taula*, prophet (Hale).

² *Vide infra*, p. 53, and Plate III.

³ "Nineteen Years in Polynesia," p. 526.

forbidden to use it at night except on special occasions. The story of fire having been first obtained by Talanga, who descended to the regions beneath the earth, is almost the same as the Samoan one.

If any unauthorized person entered the house sacred to the god, he would be burnt, at night, by the mysterious "fire of Tui Tokelau."

Another god was named Semoana, and his stone stood beside that of the Tui Tokelau, but was smaller.

A third was named Fakafotu. He was the god of storms and hurricanes, and thunder was called "*the anger of Fakafotu.*"

I heard nothing of Tangaloa, the widely recognized god of Polynesia. Hale, however, says that they spoke of "*Tangaloa i lunga i te langi*"—"Tangaloa above in the heavens."

In addition to the generally recognised gods, of whom there were many besides those mentioned, certain animals were supposed to possess supernatural powers, and were called "aitu." Pritchard, speaking of the family gods (aitu) of Samoa, says: "These private gods were supposed to dwell in some tangible object or thing which was held in the highest veneration by the individual whose god was enshrined in it, though others might abuse it with impunity" ("Polynesian Reminiscences," p. 107). In Fakaofu the "Feki" (the octopus) was the "*aitu*" of certain families, who always abstained from catching or eating it.

The "*Pusi*" (a species of *Muraena* which frequents the reef, much dreaded by the natives for its severe bites) was another family aitu.

They never offered human sacrifices, and never killed children to propitiate the gods if any calamity was impending.

Future Life.—After death the king and the priests, with their families, went to the moon, where they enjoyed all sorts of pleasures.

The common people went to a region far away, which though inferior to the moon, was still a place of many delights, where there was constant dancing and feasting, fruits were abundant, and where wreaths of flowers grew naturally in the women's hair. From here they supposed that their ancestors went to the land of white people, and were born again as "papalangi" (white people).¹

They had no idea of a place of future punishment, and none of transmigration into animal bodies.

Origin of the World.—The sea and sky were always in existence.

¹ This is of course a modern view. I was told that for some time the country of white people (in general) was called "America," probably a result of the visit of the Wilkes' Expedition. Hale and Dana describe how they were supposed to have descended from the skies.

Men came originally from the stones of the ground, "as a chicken comes out of an egg."¹

The first to appear in this way were named Kava and Singano who were both men.

After them came Tiki-tiki (a man) and Talanga (a woman), and from them all mankind are descended.²

Their son was named *Lu*.

Now, until the time of *Lu*, the heavens were low down, resting so close to the earth that men had to crawl about like creeping things; and *Lu* heaved up the heavens off the earth on his shoulders, saying, "*Apei pei i é te langi o te Atua elu te kena*" ("Rise up, rise up, oh heavens, till you reach God"); and having lifted them as high as he was able, he called on the twelve corners of the earth for help. Then the winds, and water-spouts, and hurricanes came and carried up the sky to its present height.³

And *Lu* gave names to the winds from the twelve corners of the earth as follows:—

North	....	....	....	....	Matangi Tokelau. ⁴
North-north-east	....	....	....	....	" Fakalua.
East	....	....	....	....	" Tonga. ⁵
East-south-east	....	....	....	....	" Sulu.
South	....	....	....	....	" Sema.
South-west	....	....	....	....	" Lafalafa.
South-west (nearly the same direction)	....	....	....	....	" Lakilua.
West-south-west	....	....	....	....	" Fakatiu.
West	....	....	....	....	" Laki.
West-north-west	....	....	....	....	" Palapu.

(The other two names were forgotten.)

Lu was the first man to "cry to God."

¹ Note, in connection with this explanation, the Fijian story of the origin of the human race from two eggs which were found and incubated by the god Dengei. Pritchard, "Polynesian Reminiscences," p. 394.

² In *Tahiti*.—Ti'i is said to be the name of the first man, and also another name for Ta'aroa (= Tangaloa).

In *Rarotonga*.—Tiki was the first man, and he rules over the dead—a dead man has "gone to Tiki."

In *Samoa*.—Ti'i-ti'i was the god who supports the islands. Hale, "United States Exploring Expedition."

³ In *Samoa* this exploit is performed by Tiitii, the son of Talanga, who was a man. The heavens are said to have fallen on the earth, and he raised them. His footmarks (6 feet long) are shown. (Pritchard, "Polynesian Reminiscences," p. 114.)

⁴ Hale states (p. 171) that Tokelau is the name of *East* and *South-east* trades in Tonga and Samoa—for the *North-west* in Tahiti and Rarotonga, and for *North* in Nukuhiva. It means the north-east side of an island in Hawaii. He says the word means in the direction of the open sea (not a very distinctive name for any wind in most of the islands). Matangi = wind.

⁵ Hale states (p. 171) that Tonga is the name for the *south* wind in Samoa, New Zealand, Raratonga, Tahiti, and Hawaii; but says that it is stated to mean *east* wind in New Zealand in Professor Lee's vocabulary "by mistake."

He also drew the trees and other plants out of the ground, pulling them as though with a rope.

He drew Nukunono and Atafu and Samoa, and the land of the Papalangi (white men) from the sea, "laying hold of them by the roots of the cocoanut trees."

The land of white people was drawn out first, which explains why they are so much in advance of other peoples.

There is no tradition that the Fakaofu people came originally from Samoa or elsewhere. The kings are said to be descended from Kava and Singano, the first men, who came from stones.

Time was reckoned by days, months, and years.

I was given the names of twelve months as follows:—

<i>Fakaofu.</i>			<i>Samoa.</i>		
1.	Palolo muamua	....	Palolo mua	....	June.
2.	Palolo lua	....	Palolo muli	....	July.
3.	Mulifa	....	Mulifa	....	August.
4.	Takaogna	....	Lotuaya	....	September.
5.	Selinga-mua-mua	....	Taumafa mua	....	October.
6.	Selinga lua	....	Taumafa muli	....	November.
7.	Utua mua mua	....	Utua'a mua	....	December.
8.	Utua lua	....	Utua'a muli	....	January.
9.	Vainoa				
10.	Fakaafu	....	Fa'aafu	....	February.
11.	....	....	Lo	....	March.
12.	Caunono	....	Aununu	....	April.
13.	Oloamanu	....	Loamanu	....	May.

It seems that Vainoa, the ninth on the list, may be the name of the intercalary month—inserted occasionally to make up for the deficiency caused by reckoning from lunar months. In this case I was given no name for March.

The Samoan *muli* (= after—or behind) corresponds with the Fakaofu *lua* (= 2nd).

It is curious that the word Palolo should occur in the Samoan names of June and July, as October and November are the months in which the Palolo worm is taken. I was told that the worm is unknown in Fakaofu.

The name for February—identical with that used in Samoa—is derived from afu (perspiration), this being the hottest month of the year.

Society.—The king was chosen by the whole body of the people—a middle-aged or old man belonging to the royal family.

Two islets of the atoll were set apart as his property. Besides his civil functions, he officiated at ceremonies.

When he went abroad he wore a peculiar chaplet made of cocoanut leaflets round his neck. When not in use this royal

chaplet was hung in a special place in the house, where fresh fala (*Pandanus*) fruits were kept, sacred to the Tui Tokelau.

The death of the king was the occasion for the planting of cocoanuts. If anyone planted them at other times he would die.

If a man of the royal family married a woman of another family, his sons were eligible for the kingship. But the sons of a woman who married out of the royal family were not eligible.

The Taulaitu—the priests, chosen by the king, formed an upper class in society.

Disputes were settled by a judge known as the "Palapalau," who pronounced judgment after consultation with the king and the Taulaitu (priests).

Punishments were generally mild—the offender being set to make a certain length of rope or a certain number of fish-hooks for the king. Death by strangling was, however, sometimes inflicted—as for stealing food in time of scarcity.

Property.—Two islets belonged, as we have seen, to the king. Two others were common property, and the rest were divided up as the property of individuals.

On the death of a man his land was divided up among his children, the eldest, whether son or daughter, receiving the largest share, and the rest in proportion to their ages.

Marriage.—A man might take several wives, but the first was always the chief wife.

There appears to have been no special wedding ceremony except feasting.

The relatives of a maiden had small burns dotted over their face and chest in token of their pride in her. In case they had to appear without these decorations they felt that the family had been degraded.

I was told that a man went to live with his wife's people; I suppose in the case of the first wife only.

Burial.—The body of a dead person was anointed with oil and wrapped in mats, a shell ornament, described as resembling the pearl shell shank of a native fish-hook, being suspended in front of the neck.

The body was placed in the grave lying on the back, and with the knees bent to the utmost extent, so that the leg was parallel with the thigh. The thigh was extended in line with the body. Two leaflets of the cocoanut were laid transversely across the chest.

No food or weapons were placed in the grave with it.

The grave was about three feet deep; a mound of coral shingle—of which the island is mainly composed—was raised over it, with a vertical slab of stone at the head, and other slabs laid on the top and sides of the mound.

A funeral dance, called a *tangi* (mourning), was performed by the relatives, who shaved the crowns of their heads (like a monk's tonsure), and burnt spots on their chests and faces.

For five nights after the burial the relatives came to the grave, and removing the stone which lay over the region of the head, poured cocoanut oil into the heap. This function was acted before me, a little heap of stones being made, with large ones, to represent slabs, over them; one of these was removed and water poured, instead of oil, with a cry of mourning.

The anointing the grave with oil is still performed in Tonga.

A representation of the dead person was often tattooed on the upper part of the chests of the near relatives. Plate II is a sketch of the present king, and shows four such figures on his chest.

He described the figures as follows:—

The upper figure on his left hand side represents the last king. That on the right hand side was a female relative, the wife of a Samoan living on the island. Of the lower figures that on his left represents a son, that on the right a daughter. The marks between the upper and lower figures, and those on either side within the line of the shoulder, represent children who died young. The markings on the upper parts of the arms are simply ornamental.

The queen had a similar figure on the right side of her chest, and at Atafu I saw an old man marked similarly to the king. Many of the old people are, however, without the figures.

The ordinary ornamental tattooing was not nearly so elaborate as that of the Samoans and Tongans.

The most tattooed person that I saw was an old man, who told me that formerly many were tattooed much more than he.

He had two bands across each cheek, passing from in front of the ear forwards and downwards towards the mouth. Each band consisted of an upper and lower line, the space between being filled in with oblique cross lines. A similar band encircled each wrist, and several interrupted lines were traced round the lower part of each forearm. There were two horizontal bands across the gluteal region, a representation of a fish over the hip joint, and a circular ornamentation above, at the crest of the ilium. A transverse band was tattooed across each calf, limited to the back of the leg, and there were interrupted lines above and below it; a single line surrounded the leg above each ankle.

Many, if not all, of the old women, were tattooed with triangular markings round the mouth, each triangle having its base to the margin of the lip, and the apex pointing up or down. There were ten of these, five above and five below.¹

Beside these markings and those of her dead relative and children, the queen was tattooed about the shoulders and upper part of the arms in a similar manner to the king. She also had a large quadrangular figure over the upper part of her back with cross lines, resembling a fishing net, and rows of fishes on each side.

The lobe of the ear is pierced by a largish slit—to hold a leaf or flower, or other ornament.

The hair used to be dressed with lime; but the custom is now abandoned—they would be pleasanter companions if it were not.

Dress.—The dress of the men in the old times consisted of the “*malo*”—a narrow strip of matting encircling the waist as a girdle, and passing between the legs.

The women wore the *titi*²—a heavy fringe reaching from the waist nearly to the knee. Common ones were made of leaflets of the cocoanut—better ones of the pandanus, the strips of which were fastened in separate small bundles to the girdle of plaited cocoanut fibres.

Ornaments.—A single shell or whale’s tooth was worn on the forehead or hanging on the breast. Strings of white cylinders, made by grinding down shells, were worn on the head or round the neck.

Wreaths of leaves and flowers were also worn. The kanava flower (*Cordia* species) was a favourite, and at the dance which was got up in our honour, many of the people wore tangled wreaths of the dodder-like *Cassytha*, which abounds on the islets.

Musical Instruments.—The lala, or wooden drum of the island, was constructed on the usual plan, consisting of a cylindrical log of wood, some five to six feet long, hollowed through a narrow opening along one side. It is struck with a heavy beater, and gives out a deep note. It is now used as a church bell.

Fighting.—I was told that the people of Fakaofu were great fighters in the old time—the islands of Nukunono and Atafu being subject to them. It was also related that they had beaten Samoa in fight!³

Their arms consisted of *clubs*, *stone axes* made from the clam

¹ Cf., the *Maori* custom of tattooing the women’s mouths with lines and festoons on the lower lip.

² *Titi*, a cincture made from the leaves of the *Dracæna terminalis*. Tonga and Samoa. (*Dracæna australis* = the New Zealand *ti*, tree). Hale, “United States Exploring Expedition,” p. 333.

³ Hale, on the other hand, saw no arms, and considered that they might be ignorant of war.

shells, *spears* of old cocoanut wood (which is very hard), and *bows and arrows*.

They had no armour, but went to fight with their bodies freshly oiled.

The leader in their fighting would be chosen from among the party.

Canoes.—I was told that in the old times they had two vessels—each with two masts and without outriggers—described as being as large as the trading schooners which visit the island. Each of these would hold, it was said, all the available fighting men in the island—perhaps 150 to 200 men.

The canoes at the present time are built just like those of Samoa—having a single outrigger. Owing to the scarcity of large trees on the island, the body of the canoe is built of several pieces each separately hollowed, and these are laced together with sinnet (plaited cocoanut fibre). Often there are as many as four distinct pieces along the bottom, and the sides are built up with additional pieces to the required height. Each piece is accurately shaped so that it will fit in among the neighbouring ones, and the joins are caulked with resin. The bow and stern are covered in for a short distance, and on their upper surfaces a number of small pyramidal projections are left in the middle line, to which the white shells of *Cypræa ovula* are attached for ornament. The upper surface of the stern piece is not horizontal, but slopes obliquely downwards to the end.

The canoes would hold seven or eight people.

The bailers are scoop-shaped and cut out of a solid piece of wood, with a handle left projecting in the middle of the concavity.

The paddles have longer blades than those of Samoa—in botanical language they are oblong acute, not ovate. This difference may be due to the small size of the timber on the islets.

Houses.—The mode of building houses has changed of late years, and there are now none of the old-fashioned style left.

Pictures of the old style of house are given in Commodore Wilkes' account—with the eaves reaching nearly to the ground. They were oblong in shape, supported by posts at the four corners—the posts being *in* the walls of the house—not standing in the space included within the walls as in Samoan and Tongan houses. The house of the Tui Tokelau was, however, like a Samoan house in this respect, though it was oblong in shape—not oval.

There were no *walls*, but a low fence or railing formed a definite limit to the inside of the house. The open sides could be closed with screens of plaited cocoanut leaves at pleasure.

Fishing.—Nets. Like the Samoans they used a netting needle and mesh exactly like ours. The material was twisted cocoanut fibre. The nets were often of great size. I was told that some were as much as 200 fathoms in length.

Bags made of netted cocoanut fibre cord are used.

Fish-hooks.—These are made of various materials.

Large ones (for sharks?) are made of wood.

The hook consists of two pieces (*a* and *b*, Plate IX, Fig. 1), each cut from a forking branch. The larger piece (*a*) forms the greater part of the hook—the line being attached to one end. To the other end is lashed one arm of the second piece (*b*), the other arm projects, forming the barb.

The large hooks are about a foot long, and have the lashings protected by wrappings of the strong spathes of the cocoanut (a small hook of this pattern is represented in the figure).

A very simple form of hook is made of cocoanut shell. These are shaped like the wooden hooks, but are all cut out of one piece; they are of course slightly concave on one side and convex on the other.

Other hooks are made entirely from bone (Plate IX, Fig. 2).

What appears curious about these hooks is that the barb or point approaches so near the shank, that it is astonishing the fish should be secured by them. No doubt, however, they serve their purpose.

The smaller hooks are more delicately fashioned, and are of a widely spread pattern. The shank is made of a piece of pearl shell, in other cases of some gastropod shell, and the barb of turtle shell or of bone, is fastened to it. White feathers are fastened on to the two ends of the shank. These hooks are evidently intended to represent small fish, the glistening pearl shell shank closely resembles the white under side of a fish, and in some cases the feathers are so fastened that the front ones resemble the two lateral fins, and the end one the forked tail fin of the fish.

The *Octopus* bait was made on the same plan as those of Tonga and Samoa—*i.e.*, with a mottled cowrie shell for a body, and a tail with slips of cocoanut leaflets fastened to it. It was, however, not so *rat-like* in shape as the bait is in those islands; and I found that though they have a version of the widely spread rat and octopus story—they do not look on the bait as representing a rat.

Drills.—The well-known drills described in Wilkes' account were in use at the time of our visit. One which I saw had a nail used as a point. An old man made a rough one for me, and he used for a point one of the five teeth of a sea urchin—enclosed in its conical apparatus of plates.

I was told in Tonga that similar drills are well known there.

Axes.—I obtained a number of small cutting implements made by grinding down pieces of clam shells. One that was brought off from the island of Atafu, had one of the natural grooves of the shell deepened—to allow it to be attached to a handle after the fashion of an axe. There is no hard volcanic stone to be found nearer than Samoa.

Turner was told (*loc. cit.*) that it took from ten to thirty days to cut down a tree with these implements.

I saw small shells being used for slicing taro, &c., in preparation of food.

The round boxes, which Wilkes describes, cut out of a single piece of wood, and with an accurately fitting lid, are still in regular use.

Fire was obtained in the usual way, by rubbing a pointed piece of wood in a groove in another piece.

Food.—Besides fish and cocoanuts, and shell fish, they obtained seabirds at night from their roosting places on the trees. Wild yams grew on some islets, and a kind of wild taro called "Pulaka." The outer part of the ripe fruit of the fala (*Pandanus*) is also eaten.

Young *frigate birds* were often brought from the islets, where they nest, and kept on perches near the houses. I saw several of these tame birds about the islands. I was told that long after the birds can fly they come back for food, and when they are soaring high up aloft, the cry of "ika! ika!" (fish) will bring them wheeling down to settle on the upstretched arm.

History.—The traditions seem to go back only a short distance into the past.

I could hear of nothing of their ancestors having originally come from Samoa, or elsewhere. The tradition was that their ancestors had sprung from the stones of the island.

I was given the names of 15 kings, including the present one. They are—

- | | |
|---------------|------------------------|
| 1. Kava. | 9. Avafatu. |
| 2. Tai. | 10. Savaike. |
| 3. Telaufue. | 11. Letaiolu. |
| 4. Temafanga. | 12. Lika. |
| 5. Leōōa. | 13. Langitasi. |
| 6. Foōōa. | 14. Vaopuka. |
| 7. Pofou | 15. Kava (or Tetaulu). |
| 8. Tāūpē. | |

I was told this list first in the order here given, and then in

the reverse order. The only difference the second time was that the names of No. 6 and No. 7 were transposed.

The kings were believed to be directly descended from Kava and Singano—the first men; but an indefinite period was supposed to have elapsed between them and the Kava, who comes first on the list.

Taupe was king at the time of the visit of the Wilkes' Expedition in 1841. Hence the present king is the seventh who has reigned since his time (50 years). This rapid succession is explained by the custom noted above of choosing an old man as king.

In the reign of Savaike a famine occurred, owing to a failure of the cocoanut crop, coinciding with a time of great scarcity of fish. Many people died, and a large number were taken away to Wallis Island in a French ship. Here they lived for some time, learnt the Roman Catholic religion, and later, some of them returned to Fakaofu. Since their return there have been frequent quarrels between the Roman Catholic and the Protestant converts. The last king was shot in these troubles.

The reign of Lika was marked by two events. The natives received the missionaries of the London Missionary Society from Samoa, after refusing to listen to them in the previous year; and there were two raids made on the island by Peruvian slave ships—in which large numbers of the people were carried off—the slavers being assisted in their plans by a white man who was living on the island.

I will conclude these notes with an old story which was related to me.

The Story of Tasi and his Brothers.

In the old times there lived a man and his wife whose names were Ulu and Iva. They had ten sons and one daughter. The names of the sons were those of the numerals—Ulu, Iva, Valoo, Fitoo, Ono, Lima, Va, Tolu, Lua and Tasi.¹ But at that time the names stood for the numbers in the reverse order, *Ulu* meaning one, *Iva* two, and so on, *Tasi* standing for ten. The daughter's name was Hina (=white or shining).

A man named Saipuniana, who was a kind of demon (*aitu*) and a cannibal, came from another island, and made love to Hina, and carried her off in his canoe. And when her parents

¹ The names of the numerals in Fakaofu (from 1 to 10) are—

(1) Tasi; (2) lua; (3) tolu; (4) va; (5) lima; (6) ono; (7) fitoo, (8) valoo; (9) iva; (10) ulu.

and brothers found that she had gone they mourned over her for they all loved her.

Now until the coming of this man the Fakaofu people had never seen a canoe. And the parents called together their ten sons and urged them to build canoes and go in search of their sister. And they distributed stone axes among them, giving ten to Ulu, nine to Iva, eight to Valoo, and so on—Tasi, the youngest, only receiving one axe. So they set to work, each at his own canoe; and they called on the wasps (*Tangi-susu*) to make sails for them, because they use leaves to build their nests. So the wasps wove the leaves of the *fala* tree together, and made sails; and this was how the women first learnt to make mats.

Before his canoe was finished, Ulu the eldest broke all the ten axes which had been given him; so he went to his next brother Iva, and asked, with many apologies, if he could spare him an axe.¹ But Iva refused and referred him to Valoo, and by Valoo he was sent to Fitoo, and by him to Ono, and so on till he came to Lua; and Lua had not the face to send him to Tasi, who only had one axe to begin with, so he gave him the spare axe he had received. So Ulu returned and finished his canoe; and all the ten were finished about the same time. Then the canoes were put to sea, with the mat sails which the wasps had made, and the ten brothers started to look for their sister; and each was anxious to be the one who should find her and bring her back.

Now the other nine canoes went on ahead, and Tasi remained behind in his. Then Tasi called to the canoe of each of his brothers in turn, "*Seki-seki itua peau*" (= "Come back with the waves," or "Let the waves wash you back"), and as he spoke the words each canoe stood still as though it were anchored, and Tasi alone went on to the island where Hina was.

Now Saipuniana suspected that some rescue of Hina would be attempted, and to prevent her escape he tied the end of a long string to her wrist and kept the other end in his hand. And he used to live in a kind of cave in the ground. And Hina was soon tired of Saipuniana, and longed to be back with her own people. So when Tasi came to the island he found Hina wandering about with the string made fast to her hand; and they met and began to plan an escape, when tug, tug, came on the string, and Hina had to hurry away for fear she should be found talking with Tasi. And as she went she told him to hide in the *fala* tree which stood near the cave. Shortly after she made the excuse that she felt very hot down there, and that as

¹ The ordinary narrative is told plainly, but when anyone speaks, the words are chanted.

Saipuniana was sleepy she would go and walk about. So she went up and straight to the fala tree where Tasi was hidden. Then he slipped down, undid the cord from her wrist, making it fast to the tree instead, and they went off to the canoe and left the island.

Now when Saipuniana awoke, he began pulling at the cord for Hina to come, and finding the resistance he pulled harder, and called "Hina, hau!" ("Hina, come"). At last he got in a rage, and pulled with all his might, and down came the fala tree. But Hina was gone.

Meanwhile the other nine canoes had recovered from their enchantment, and had put back to shore. And Ulu came first to land. And the parents stood on the shore and called to him as he came,

*"Ulu e alo mai te vaca iacoy.
Au te fesiliatu ia Hina si-aku tama.
Penau siki penau fasa.
Oli oli i toku manava.
Hina safea Hina kavea!"*

Which may be rendered, "Oh, Ulu, come quickly in your canoe, I ask you for Hina, my darling child (whom I have brought up), whether carrying her or correcting her, the gladness of my embrace. Hina taken up and carried away."

And Ulu had to reply, "No, she is not here." Then they were angry, and drove him off.

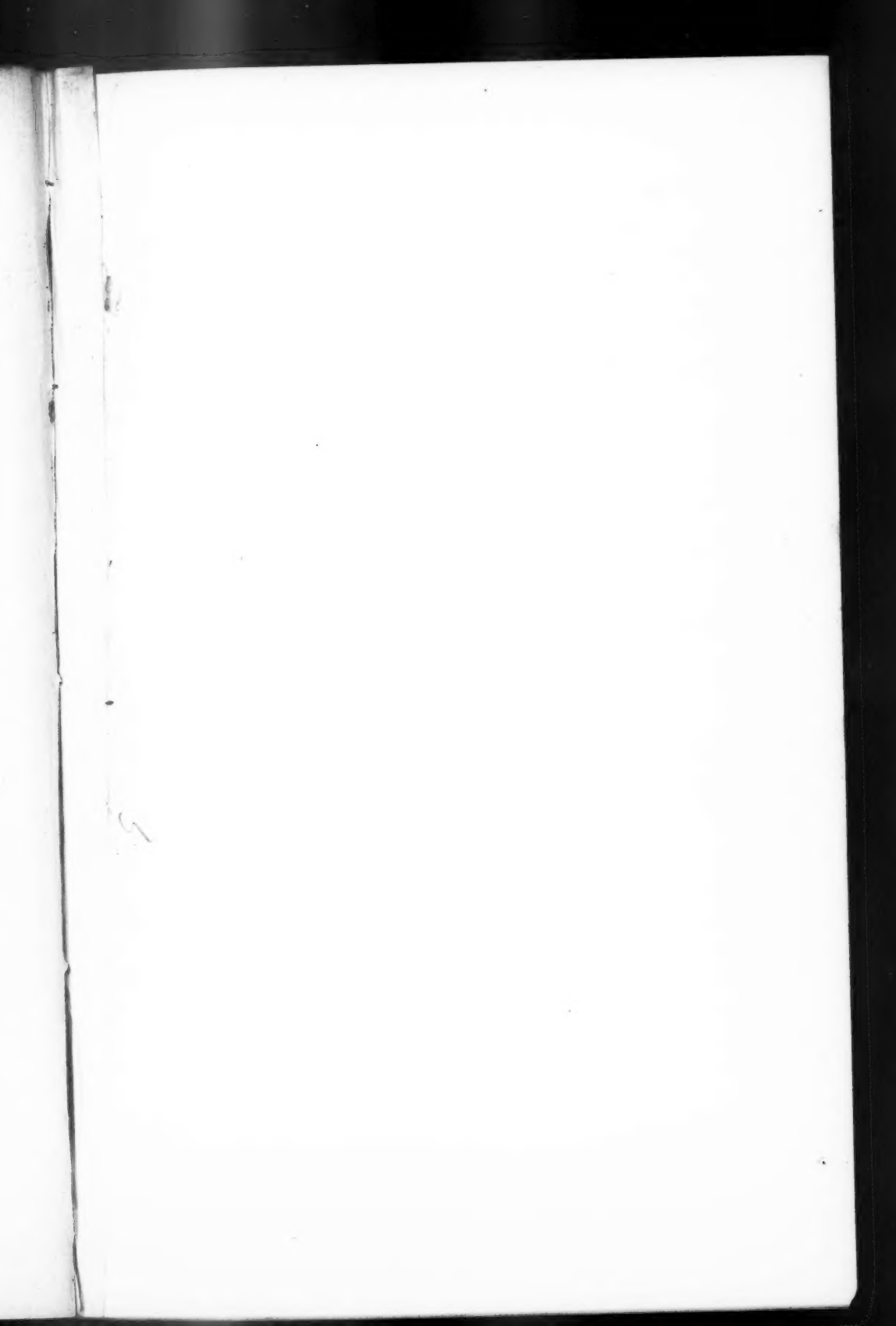
And when Iva came they addressed the same words to him, and he too was driven off, and so with Valoo, Vitoo, Ono, Lima, Va, Tolu, and Lua.

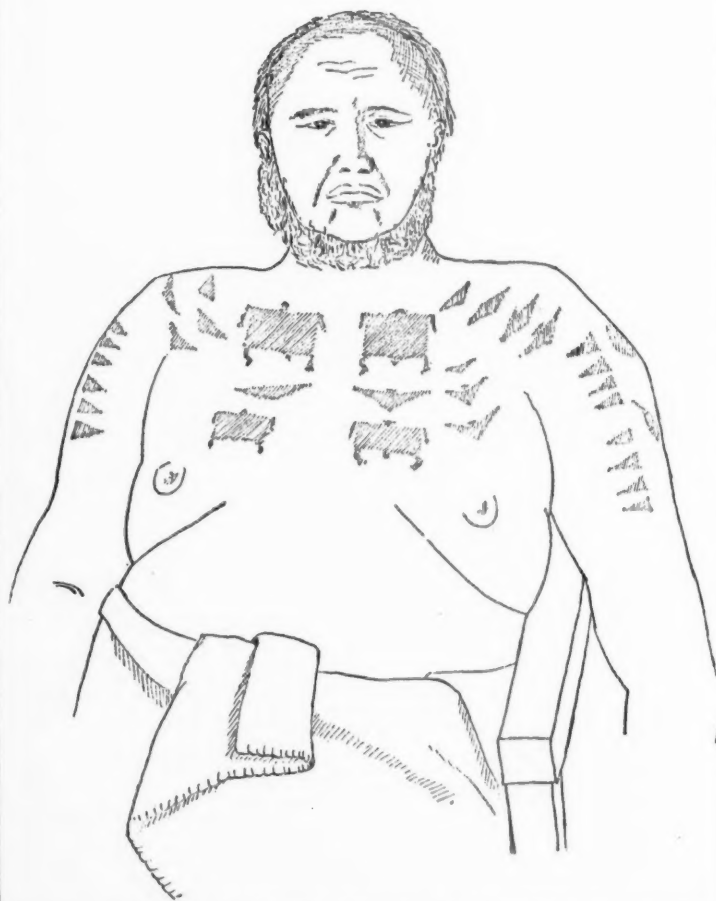
At last Tasi came, and they called in the same way, "Oh Tasi, come quickly in your canoe," &c. And he answered, "Here she is," and the parents embraced Hina, and rejoiced over her.

Then they said, "Since Tasi has brought our girl back to us, he who has always been the last of his brothers shall henceforth be the first, and Ulu who was reckoned first shall be last." And so the meanings of the names of the numbers were changed in honour of Tasi, and ever since Tasi has stood for one, Lua for two, Tolu for three, Va for four, Lima for five, Ono for six, Vitoo for seven, Valoo for eight, Iva for nine, and Ulu for ten.

It is interesting to note in the parents' speech to the sons as they returned from their journey—a sort of metre in the third and fifth lines, and in the fifth—"Hina safea, Hina kavéa,"—rhyme as well.

Both rhyme and metre are known among other peoples of the Pacific (as in Tonga and Fiji).





SKETCH OF THE KING OF FAKAOFU SHOWING THE TATTOOING ON HIS CHEST.





FIG. 2.



FIG. 1.

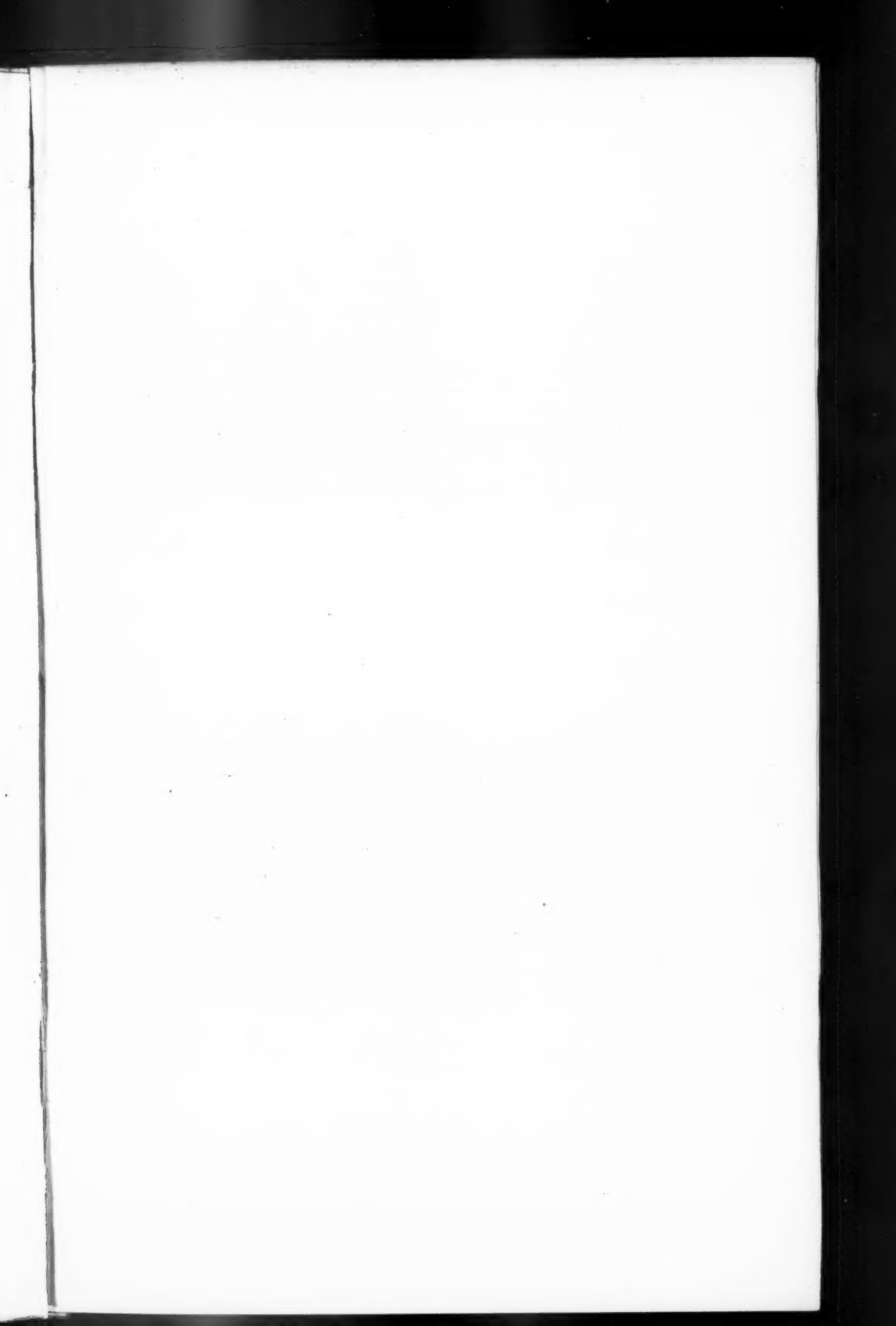




FIG. 2.



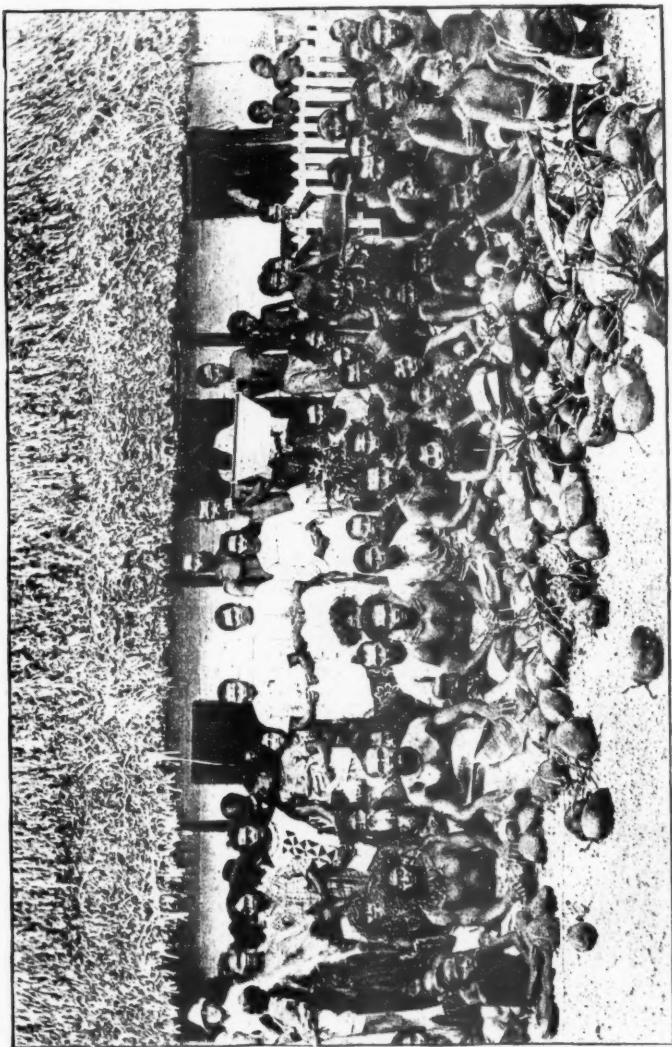
FIG. 1.











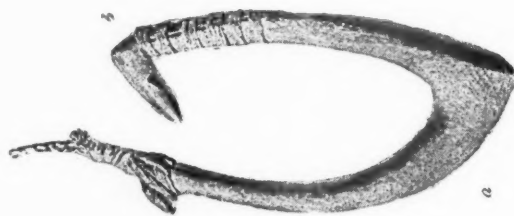


FIG. 1.



FIG. 2.

DISCUSSION.

Sir JOSEPH LISTER, commenting on the results of the measurements of the natives of Fakaofu, and the suggestion that their long arms and large chest girths—as compared with the natives of Tonga—were due to the peculiar conditions, involving almost constant use of canoes, under which they lived, remarked that he would not have expected the frequently repeated action of paddling to have produced lengthening of the arms, though he could understand its resulting in increased size of chest. He pointed out that the natives of Tonga, too, were accustomed to use canoes, and hence it was not clear that the peculiarities of the natives of Fakaofu could be referred to the cause assigned.

PROFESSOR STEWART, Mr. READ, and Dr. TYLOR also took part in the discussion.

Mr. LISTER replied that though the Tongans use canoes, canoe work is not so essential a part of their lives as is the case with the natives of Fakaofu. A native of the Island of Tongatabu has many avocations quite apart from the sea, living on an island twenty-two miles in length, and many villages are situated some distance from the water. The natives of Fakaofu, on the other hand, live crowded together on a small islet situated on a ring of reef, and to meet every need of their lives they must do more or less paddling.

Explanation of Plates.

- I.—Map of Fakaofu (Bowditch Island). From the Survey of H.M.S. *Egeria*, 1889.
- II.—Sketch of the King of Fakaofu, showing the tattooing on his chest.
- III.—Fig. 1. The King of Fakaofu wearing the emblem of royalty. The tattooing does not appear in the photograph from which the plate is prepared.
Fig. 2. The Queen of Fakaofu, in full face.
- IV.—Fig. 1. The Queen of Fakaofu, in profile.
Fig. 2. A woman of Fakaofu.
- V.—A woman of Fakaofu.
- VI.—Three women of Fakaofu.
- VII.—Son and daughter of the King of Fakaofu.
- VIII.—Group of natives of Fakaofu, with present of cocoanuts and fish.
- IX.—Fish-hooks used by the natives of Fakaofu.
Fig. 1. A wooden hook, half size.
Fig. 2. A bone hook, real size.

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duty, then surely this form of contribution can be amply defended. Duties in every respect similar to the octroi of the present day formed a regular part of the tributary system of Rome in its earliest days; for if we go back beyond the Empire and beyond the Republic, again to the days of the Kings, we find them in full force, and the popular voice already agitating against them. Livy asserts that under the name of "Vectigal" duties upon articles of consumption were levied with the "portoria" or general duties upon introduction at the city gates; and he also tells us that these were all suppressed, and the people freed from them, upon the expulsion of "the last of the Kings," Tarquinius—*portoris et tributis plene liberata*. But not for very long, for under the Republic the same author testifies that they were re-established. By Cicero, again, we are told that the "portoria" were suppressed in Italy in his day, not so much because of their weight as because of the vexations and annoyances at all times inseparable from their collection—*non portorii onus sed portitorum injuria*. But again they were introduced in the time of the Emperors, and, side by side with the taxation of articles imported from abroad, these duties appear to have been greatly extended. After the fall of the Roman Empire this system of taxation partook, as was natural, of the general confusion that reigned throughout the country. Only one thing is clear, they were everywhere imposed in some shape or form. Contributions which had been submitted to from the earliest periods of Roman history were not likely to fall into disuse in the age of feudal oppression, and feudal lords of every degree amply availed themselves of them. There was not a village or hamlet of Italy that did not pay to its signoral lords the duties imposed on articles of consumption and merchandise introduced within its limits, and hardly a bridge existed on which transit dues of the same kind were not imposed. With the decline of feudalism and the extension of popular government, which accompanied the growth of the Italian free cities and republics, there was a gradual suppression of this among other forms of feudal tyranny, and out of the chaos of indiscriminate and universal indirect taxation that had existed some system and order were restored with the renewed security given to trade. But whilst roads were opened, and the country was cleared of feudal obstruction, indirect taxation at the city walls appears to have been constant, and to have formed a chief source of revenue for the Italian republics even at the most brilliant period of their commercial development. That these duties died slow and died hard, there can be no doubt, but that they did die in many parts of Italy, and more especially in liberal Piedmont and Tuscany, the official statistics have shown.

Strong popular movements appear generally to have swept them clean away, and perhaps Italy affords the only instance where a revolution (which was, however, very different in character and results from most) has not been followed by their disappearance. One of the first acts of the "Assemblée Con-

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Upon their reintroduction, however, the communes had little or no power over their disposition, and under the First Empire the supervision and control of the central authorities over these sources of municipal revenue was steadily increased, until in 1812 their collection and administration was placed entirely in the hands of the Government. Liberty in respect to these chief sources of their revenue was restored to the communes at the restoration by the law of April 28th, 1816, which still forms the basis of the octroi legislation of France.

The history of popular revolution in Spain shows also the extreme dislike of the people to this form of indirect taxation. The "consumos," or octroi duties, were entirely suppressed by one of the first decrees of the Provisional Government which succeeded the expulsion of Queen Isabella; and I would call attention to the fact that the tax substituted for the octroi, and by which it was intended the revenue derived from octroi duties should be replaced, was a capitation tax, and that it was progressive.

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In Holland the octroi duties were wholly abolished in 1866, and the communal revenue they produced was replaced by a number of centimes added to the land tax and some other forms of direct taxation, and by a tax that in most countries where it has been levied has proved equally unpopular—the "milling tax," or tax on the grinding of corn. In Denmark there are no duties levied of an octroi character, nor, so far as I can learn, is this form of contribution practised in Russia. The different systems of municipal taxation pursued in the Empire of Germany are far too complex and varied in character for me to pretend to give any description

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of them here. We are told that "the different German states have preserved their autonomy in all that concerns municipal administration and finance," and that whilst in some the octroi contributions are still those that existed in the 18th century, in others they have entirely given place to other more direct forms of modern taxation.

Thus, in Bavaria, the aristocracy (Dourghlaut and Erghlaut) still retain their ancient privilege of introducing into the towns where they reside all articles of consumption required by them and their retainers free of any octroi duty, although these duties may be imposed on the rest of the inhabitants, and it appears that this relic of the feudal ages is only gradually disappearing by private agreements and arrangements with the municipal authorities. In the Grand Duchy of Baden octroi duties are only levied in a few of the cities, and these are of the lightest character, and are limited in number. In the Grand Duchy of Hesse, also, these contributions are only imposed in a few of the larger cities. In Wurtemberg municipal treasuries are nourished by direct taxes, but in the Grand Duchy of Saxe-Weimar octroi dues are levied in the majority of the towns. It is noteworthy that in Prussia the municipal contributions differ in character in the towns and in the rural communes, for whilst in the latter they consist wholly of direct taxes, the towns are permitted, in the case of insufficiency of revenue, to levy indirect octroi duties. But these in every case, and however small the proposed tax may be, must be approved of first by the central government. It should not pass unnoticed that octroi duties have been wholly suppressed in Berlin.

"Costume and Habits of Sicilian Peasantry."

The "FOREIGN OFFICE REPORT, No. 813, Annual Series," contains the following details:—The clothing of the Sicilian peasant differs in different parts of the island. In the southern part of the island, near Sciacca, the costumes approach in appearance the Spanish style, the women wearing the black mantilla, and being mostly dressed in black. In the towns of Monte San Giuliano, the ancient Eryx, 2,464 feet in height, the men wear a woollen cappa or hood to protect them against the frequent mists in winter, and the cappa is found in many other parts; the women too wear long black veils. The ancient national costumes of the Sicilian men were very handsome. How far they may ever have been dressed in the variegated costumes, such as are seen on the boards of the opera, and resembling those still seen in the neighbourhood of Naples, it is impossible to say; no trace of such is now to be seen except in the case of the "balie" or nurses of good families. There was, however, commonly worn a very fine dress consisting, for the better classes of *contadini*, of a short jacket of velvet or velveteen, with a waistcoat and knee breeches to match, and a black tasselled cap, with a red kerchief round the neck and high boots; for the lower classes the dress was much the same in style, only made of home-

made black fustian, and the legs were swathed in wraps of the same material, cross-gathered with leathern thongs secured round close to the feet, which were shod with a kind of mocassin, something like a Dalmatian "opanka." This, with an underclothing of coarse linen secured at the neck by a tape and appearing at the knees beneath the breeches, with a blue or brown Phrygian cap, formed a picturesque dress. Some costumes of this kind are still to be seen, but the increased expense of living has for the masses almost driven out the old style of dress. The Sicilian peasant cannot now afford to sacrifice to the picturesque, and gets his dress of the cheapest possible fustian or other material. The clothes in which the Sicilian labourers do their daily work are things of shreds and patches, patched so often that not a vestige of the original garment remains. Such as they are now, they consist of a short jacket and trousers of coarse brown linen or fustian, with leggings swathed up with cross bands and mocassins on their feet, which they make themselves, and they generally have a short dark blue cloak which they slip over their heads in cold and rainy weather. Some of the more well-to-do peasants have winter clothes of the same shape in cloth, with lighter white cotton clothing for the summer. A thick coarse suit for winter costs sixty lire, and the lighter winter suit twenty lire. In the mountains the goat and swine herds often have besides a pair of trousers made of the undressed skin of a black sheep, with a vest made of the same material with the wool turned inward, which gives them somewhat the appearance of the ancient god Pan or of Robinson Crusoe. The house of the labourer, if he is a "giorналиere" or day labourer (in which case he gets no work in rainy weather), is usually in the towns, and consists generally of one wretched room, either paved with rough stones or not paved at all, with the scantiest supply of furniture, such as a bed, often of home-make, composed of boughs of trees twisted together cleverly with twigs and osiers, coarse settees of similar manufacture, a dirty chair, a rough-hewn table, and a pot or pan or two and a wooden trencher. In this room the whole family live, and share it with their poultry, pigs, and donkeys, if they happen to have any. Although the place is filthily dirty, the bed linen is generally clean. There is no fireplace and no latrine, nor any attempt at sanitary convenience, the street or road in front of the house being most frequently used for this purpose. The rent runs generally from twenty-five lire to fifty lire per annum. There is no ceiling; the tiled roof is over their heads, through which the smoke escapes, if they make a fire, between stones in a corner or the middle of the hut, and through which the wind rushes from every point of the compass. In the winter they suffer much from cold, which is very severe in the mountains, and when they can afford it they hang a strip of matting over the bed to give some shelter. Should they make a fire, where wood is cheap, the whole family will sometimes sleep round it on the ground. The evils, however, of their wretched habitations are, it must be remembered, in some

degree mitigated by the fact that both in town and country the greater part of the lives of the people are passed outside the houses. There is, however, a better class of *contadini*, called "massai," who live on the estates of large landowners, and these fare somewhat better both in clothing and dwelling houses, and are permanently employed. There is also another class of *contadini*, who have permanent employment on the rare farm-houses. These farmhouses, even when they do exist, are of a rough-and-ready sort, which a comfortable English peasant would regard with amazement. The Sicilian tenant-farmer has one room for himself, in which he keeps his store of provision. He has another room, called a "panetteria," for his men, and in this they either sleep at night in rough trestle beds or on the floor. In this apartment there is an oven for making bread, and a small storeroom for corn, and there may be an ox-stall, and perhaps a stable, and the farmhouse is complete. From the preceding data, as to the wretched wages, scanty food, and miserable dwellings of the agricultural labourers, it might be imagined that they did not rank very high in the scale of civilisation; nevertheless, in habits, morals, and religion, and in manners, they are far superior to what might be expected. How they manage to exist and bring up families on their poor earnings is a marvel, and they would not do this unless they were as abstemious as anchorites, very laborious, and wonderfully prudent, and their manners, moreover, are generally courteous and obliging; and, so far as his knowledge of religion goes, the Sicilian peasant is very devout. As in respect to other matters relating to the peasant of which we have spoken, there is a good deal of difference in the character, habits, &c., of Sicilian labourers in different provinces. The labourers who stand lowest in the scale are those engaged in sulphur mining, of which fact I made mention in my sulphur report of 1888, and lately some frightful details have been published of the degree of barbarism to which these workers are reduced. Generally it is supposed that the inhabitants of the east side of the island have more of the Greek blood in them than those of the west; they have, at all events, the air of being of a superior race. In Palermo and its district more of the Arab blood is supposed to prevail; in some interior districts the Lombard race has survived both in dialect and appearance; and Albanian colonies still exist in the neighbourhood of Palermo, especially at Piano dei Greci, where the inhabitants still adhere to Greek costumes and Greek usages.

From the days of the primeval *Siculi* and *Phœnicians*, it may be said there has been no dominant nation which has not supplied some ingredient towards the formation of the Sicilian people. One striking proof of the difference of character of the islanders is that on the east side of the island people rarely go armed, while in most districts on the west side and in central Sicily it is the universal custom, since brigandage (now supposed to be extinct) was always more prevalent in these parts; and though the

Sicilians are very wrath at any suggestion that it is not extinct, still people generally, and especially the authorities in the western and central districts, take as much precaution as if it were still alive, and certainly sequestrations and acts of violence are occasionally committed, as to which one must make a nice distinction not to call them by the old name. In order to understand Sicilian country life, one must dismiss from one's mind all notions of country life such as we know it in England, in France, or in any country in the north of Europe. There are no country houses, even for the proprietors, in our sense of the term. If a landowner visits his estate, he does so for a few days in the spring and autumn, and puts up as he can in some farm building fitted up for a fugitive residence. The gentry have no country sports; there is no hunting, no fishing, no game worth mentioning; there is nothing in our way of a country town, and not even any market towns, although irregular fairs are held at various towns in the interior. In the same way the peasant farmer and the peasant does not regard the country as his place of habitation; they all live in towns, sometimes many miles from their farms and places of work. If their habitations in the town are near enough to their places of work, they go forth from their towns in the morning and return there in the evening. If the lands to be cultivated are too far off for this, they put up a "pagliaja," a sort of straw wigwam, somewhere in the fields, and go forth every Monday morning, and take a nightly shake down in them until the ensuing Saturday. Every Monday morning there is a general exodus from the towns. These towns often look picturesque in the distance, being generally perched on the tops of mountains, some of them rising from 2,000 to 3,000 feet; sometimes they are perched on peaks of mountains so lofty and precipitous that one marvels how it could possibly enter into a human head to found a town in such a situation unless, as was no doubt the case, the towns were regarded as places of refuge from pirates, hostile bands, and marauders. The town of Pollina, for example, which is close on the sea on the north coast, is perched on the top of a mountain as conical and precipitous as a sugarloaf, and is about 2,000 feet high. The town of Sclafani looks like a vulture's nest on the top of a mountain of about the same height. The town of Castro Giovanni (Kasr Enna) close to the once flowery plain of Enna, is about 2,600 feet high; the town of Troina is about 3,600 feet high; and the town of Monte San Giuliano is only a little lower than Castro Giovanni. However picturesque these towns may look at a distance, on entering them generally all illusions are dispelled, and if the traveller has been to Syria or Asia Minor he will have been prepared for a similar disillusion. The towns which look stately in the distance we find on entering them to be a collection of hovels. There are, it is true, exceptions to the general rule, and I have been surprised in a few instances to find a country town with a clean, well-paved central street; but generally the streets, if they can be called such, are hardly more

level than the mule tracks in the mountains. Some have the appearance of having been paved with rough stones at some time or other, but now the greater part of the stones have either disappeared or lie dislocated about. In one considerable town which I visited, and which had a carriageable road going by it, although the main street was broad enough for six carriages to go abreast, and about a furlong in length, no carriage would venture down it, and a sick friend was carried up the street and put into his carriage outside the town. In such towns the chemist's shop is the only shop which has the similitude of a shop. The chemist is necessarily a man of some education, and the most accessible civilised being in the place. The "*farmacia*," indeed, is generally the place of rendezvous of all the gossips in the town, and only finds a rival in the salon of the "*barbiere*," unless, indeed, as happens in the more important towns, there be a casino, when the chance may be, if you want the chemist, you have to send for him to the casino, and when he comes to make up your drug, if it be a liquid, he will probably put it in a bottle which has done duty many times over, and he will not be particular if it has three or four labels on it already. As for powders, even in Palermo they make them up in papers, which look as if they came out of a village grocer's shop, and might contain common salt, or pepper, or sugar, for they rarely label them. A small old deal table, with some scanty specimens of fruit or vegetables on it, a bottle or two of oil hanging down in one doorway, and a few specimens of rough country earthenware slung down from another doorway are all the signs of commerce and marketing which the traveller will see in the place. A castle in ruins, an abandoned convent, and a dilapidated church (the *matrice*), with a steeple sometimes a good deal out of the perpendicular, with sometimes a brand new "*municipio*"—such form the chief buildings of an ordinary Sicilian country town.

"FOREIGN OFFICE REPORT, No. 822, Annual Series," states that Hifzi Pacha has caused the ancient thermal baths of Eleftheré (Salonica) to be repaired. . . . Modern experience has confirmed the high opinion which the ancients appear, from the numerous Roman remains on the spot, to have had of the springs.

"Native Tradition about Locusts."

"FOREIGN OFFICE REPORT, No. 857, Annual Series." The natives of Mogador have curious traditions as to these locust plagues, one of which, told me by a Berber fisherman, runs as follows:—

In the interior of the Sabara are people (*Jeraiduja*, or locust owners) who have control over the locusts, and they used to receive presents from the Sultan, and they kept the locusts back. Every year a certain monster came to that place, and it died there; and these people used to burn the carcase, and then all was well. But if it was not burned (owing to the men not being in good humour) then it putrefied, and bred millions of maggots, and they became locusts. And lately some of these men came to the Sultan and

said: "Have not people been complaining of locusts?" And the Sultan replied that they had. "Well," said the Jeraiduja, "we are the locusts; why have you not given us our customary largesse?" Another version was that the locusts came out of a certain cave or pit in the Sahara, over which some holy people had control.

"The Hedjaz, 1890."

"FOREIGN OFFICE REPORT, No. 867, Annual Series." The number of pilgrims who landed at Jeddah during 1890 far exceeded that of the two or three preceding years. Their nationality and numbers are shown in the accompanying list:—British Indians, 11,545; Egyptians, 5,815; Moors, Algerians, &c., 3,223; Javanese, 10,004; Turks and Syrians, 4,637; Arabs, 1,700; Persians, 1,941; Yemenese, 2,381; Soudanese, 222; Bokharians, 878; Pilgrims from Yembo, 4,067; arrived by coasters, nationality unknown, 983. Total, 47,396.

"The Sacred Citron."

"FOREIGN OFFICE REPORT, No. 874, Annual Series." There is also a curious, rare, and highly-esteemed holy fruit of this genus (citron) which, as mentioned in my Commercial Report for 1883, is sold here at an average of perhaps 4*d.* per fruit, yet appears never to be eaten. As I said in that report, this may be spoken of as the sacred or holy citron of the Jews, which is carried to their synagogues at the Feast of Tabernacles, it having an emblematical significance. So highly prized is this fruit by the faithful observers of Israelitish tradition, that specimens without blemish sometimes fetch as much as 4*s.* each here; while, in England, I am informed on good authority that they are sold in certain synagogues for the extraordinary price of one guinea to two guineas each. Their use is supposed to be derived from injunctions contained in the 23rd chapter of the book of Leviticus: "And ye shall take you on the first day the boughs" (Hebrew version, "fruit") "of goodly trees, branches of palm trees, and willows of the brook." But the Jewish version of the same passage reads: "And you shall take to yourselves on the first day the fruit of the tree Hadar, palm leaves, boughs of the tree Aboth, and willows of the brook."

These special fruits, boughs, &c., are particularised in a Jewish book, entitled "The Festivals of the Lord," as fruit of the tree badar, or citron (Hebrew, "troon"), the capoth temarim or palm leaves, boughs of the tree aboth or "myrtle," and brook willows. The "troon," or "tabernacle citron," as it is sometimes called, is a fruit rather larger than a lemon, pale greenish-yellow in colour (being always plucked before it is fully ripe), and said to contain only one pip, and to be of an extremely pure nature, and to keep sound for a very long period. Those which are despatched hence are carefully packed in cotton wool or other soft material, as the price which they will realise for their holy use is entirely dependent on the greater or less freedom from blemish which the priests can certify concerning each specimen. Inquiry as to the exact

locality of their production has resulted in fixing it at a place called Assats (sometimes Assat), which is in the province of Soos, at no great distance (some say half a day, some a day) from the town of Tarndant, and on or near the bank of the great Soos River. It is related with regard to this interesting place that there is a very ancient Hebrew graveyard there, and orchards known by the names of Moses, Aaron, David, &c., also that the authority of the Moorish Government is not respected there. Jewish informants here have said that these "troons" come from no other place but Assats; but they have been unable to explain how the faithful Hebrews, in many far-distant parts of the world, manage to provide themselves with these necessary emblems. The shipment from Mogador in one year amounted to 110 boxes, containing 9,024 specimens of this interesting vegetable production.

"Locusts as Food." The same report states—No governmental or municipal measures are taken, as in Algeria and Australia, against these pests; the only in which their numbers seem to be materially reduced being the collection of large quantities for sale as food among the natives, they not appearing to be "unclean" to either Jew or Mohammedan, though prawns (to which they are compared in flavour by some Europeans who have tasted them) are not eaten. Brought into town in camel loads, heaving sacks of ruddy-brown or greenish-yellow insects (the first colour in Autumn, the latter recently), they appear to be first boiled in salt and water, then fried or parched. The same *modus operandi* seems to have been in vogue, according to old writers, early in the last century. When properly preserved the "jeraad" appear to have been looked upon as a convenient form of food for travellers to take with them on the road.

"Native Drugs."

"FOREIGN OFFICE REPORT, No. 888, Annual Series," contains a suggestion that it would be worth the while of a herbalist and druggist to visit and examine the sample rooms attached to the Imperial Maritime Custom-houses, in order to study the drugs in use in China.

"Population of Australia."

"COLONIAL REPORT, No. 4, Annual Series," contains a considerable amount of valuable information with regard to the population of Australia. The following is stated to be the proportions of the sexes in capitals of Australian colonies in 1881. Females per 100 males:—Hobart, 107·02; Melbourne, 103·55; Brisbane, 103·38; Wellington, 101·09; Adelaide, 100·84; Sydney, 96·80; Perth, 95·30.

The following is the order of colonies in reference to density of population, 1889:—Victoria, New Zealand, Tasmania, New South Wales, Queensland, South Australia, Western Australia.

The mean increase of population by excess of births over deaths, 1880 to 1889, is 1·65 per cent.

"Native Land Transfer on the Gold Coast."

"COLONIAL REPORTS, No. 1, Miscellaneous Series." Continuation of No. 110 (O.S.). With regard to the land question Mr. H. W. MacLeod, late Chief Justice of the Colony, in a paper published in the "Edinburgh Juridical Review" for July, 1889, on "The Administration of Justice on the Gold Coast," states:—"Throughout the greater part of the Colony succession is through the female; e.g., when a man dies his children do not succeed, but the property is taken by the children of his sister. A chief explained the reason thus: 'My sister's children are my blood relatives, but whether the children my wives bear are so or not I cannot tell.' When I told him how different the white man's law was, he gave me clearly to understand that in this respect he considered the white man somewhat credulous and soft-headed. Again, in the greater part of the colony such a thing as individual property or private ownership is unknown. Property belongs to families, larger or smaller, as the case may be, but ever-increasing in number. Each individual of the family has rights in the property and can enforce them, but he has no power of alienation. Such property is managed by the head of the family for the family benefit, and as these two doctrines of succession and family property must be applied together, the power will not appear so strange, for though when a man dies, his sister's child becomes head of the family, and succeeds as such head to the property, yet the deceased's children are members of that family, though occupying a very subordinate position."

The report also contains some important notes on Native Drugs and Plants by Dr. J. F. Easmon, Assist. Col. Surgeon.

"British New Guinea."

The Annual Report for 1890 contains a large amount of valuable information, from which the following notes are extracted. Sir William Macgregor gives the following account of the natives of the Island of Kiwai at the mouth of the Fly River (p. 40): "They possess no knowledge of pottery and have no pots; they employ as bucket, basin, bowl, and plate a large slipper shell, which they procure through Mowatta, as I am informed. Its name is 'Wadere,' and the consequence is that the Kiwai native has no other name than 'wadere' for all our pots and pans and different kinds of dishes. They use a knife or dagger of cassowary leg bone, obtained from Dudi. Water is carried in great bamboos or in cocoanut shells, arranged about half a dozen in a long narrow basket slung over the shoulder. All cooking is done by roasting on the coals, or the article to be cooked is rolled into pandanus palm or some other leaf, and roasted in that way on the fire. In this manner they cook pies, and such things as mushrooms, and the vegetables "gesere" and "guguba," mentioned above. Men, women, and children go to the gardens; if they are inland the husband goes ahead with bow and arrow, and the others

follow; he sometimes takes a fair share in carrying in the supplies. They seem to use no arms except the bow and arrow. They have no shields, but we saw a very few short-handed, heavy stone clubs. The bow is made of a piece of bamboo nearly an inch thick, about two inches broad in the middle, and tapering to the ends; the inner surface is on the convex side; the string is a piece of bamboo about $\frac{1}{4}$ inch broad and half as thick. The shaft of the arrow consists of reed; the point of palm wood or bone. They do not seem to employ poisoned arrows. They carry bundles of arrows that may sometimes be counted by the score. Some of them are very old and worm-eaten. They know betel nut, lime, and pepper, but they do not use them, just as they know of the *Piper Methysticum*, which, also, it is not customary to employ, and they do not cultivate. I have not seen a person with stained teeth on the island. I do not know of any stimulant that they possess, unless we may call by such names their home-grown tobacco, which they cultivate in considerable quantities. The women, down to the smallest little girl, wear a dress made of the different kinds of fibre, and generally coloured yellow, reddish-brown, and brownish-black. The yellow dye is procured from the root of a plant which seems to be a kind of turmeric; the reddish colour is got from a red clay brought from Dudi, the mainland on the right bank of the river; and the black colour is given to the fibre by burying it in mud for about a week. The dress is called "wapa." It consists of two parts, front and back. The fibre in each is about three feet long, and the two parts united by a woven belt which, in dressing, is first of all fastened on the right side. The back portion of the dress, consisting of a large handful of fibre woven into the girdle at the top and free below, is brought through tight between the legs and passed under and over the band in front; the front portion is then simply doubled over the band to form a ruff in front. Women wear their hair short. Neither man nor woman tattoo. They do some carving on drums, &c., which they call "titi," and this therefore becomes their word for "writing." For the male sex the fashion of the country is that they be absolutely naked; but at least half of them wear more or less clothing of some kind. Indeed, clothes and tobacco are the two things they desire above all others. These people were greatly amused at the dress worn by the Port Moresby natives of my party when got up in their national uniform of a yard and a half of pack-thread; while, on the other hand, our otherwise nude natives were shocked at the indecency of the Kiwai people, who did not wear a string. The paper mulberry plant is not known to Kiwai, and they have no native cloth, and no name for cloth. The cloth-like part of the young cocoanut tree they call "sugu," but strange to say they have not applied that name to cloth, and consequently they are in great difficulties sometimes for want of an adequate expression. For dances men paint themselves in red, black, and white. The black is from the charcoal of a corklike plant, all pith, called "paramuti nibu"; the red clay is from Dudi, and the white is a clay from Mavataserao, or the burnt shell of the

small clam called Ipa. They wear long petticoats made of the same materials as the women's wapas, and elaborate feather headdresses, which cannot be described here. Besides the paints already mentioned as used in ornamenting the body, it should be mentioned that the septum of the nose is pierced in both sexes. The women wear in the septum a short piece of bamboo which hardly at all projects at the sides, about three-fifths of an inch in diameter, so that it gives a square appearance to the point of the nose, and makes all the women very much resemble each other in feature. Men sometimes wear a piece of clam or pearl shell in the septum, but generally they wear nothing in it. The lobes of the ears seem to be distended in early life until they burst, and then a long flap, about half an inch broad and perhaps four or five inches long, is left, and is worn turned up behind the ear so as to project in front. A row of small holes is pierced round the margin of the external ear, in which they insert small quantities of worsted or coloured fibre. They do not seem to practise any other form of mutilation except that a few have scars on the back. Circumcision is unknown. The most prized decoration is the polished end of a conical shell; some of these are about three inches in diameter and are worn suspended from the neck. Good specimens they will not sell at any price. Some have belts thickly and neatly inlaid with a double row of small white cowry shells; others wear belts and bands thickly studded with dog's teeth. They often wear shell armlets, and also armlets and leg ornaments plaited from pandanus and other leaves. A kind of mint is the only scented plant in use; this they wear behind their ear or stuck into their armlets. They have few flowers, the most conspicuous being the doubled hibiscus, which they call "the flower"; they have a very considerable variety of crotons and dracænas, which they cultivate largely for ornamentation at dances. They are very fond of the feathers of the cassowary, birds of paradise, cranes, and black and white cockatoos, from which they construct quaint headdresses. . . . It is not easy to procure any insight into the ideas of such people with regard to another world than ours, but this much they told me at Kiwai:—Every man, woman, and the smallest children, every dog, every pig, every crocodile, has a soul or spirit (Urio) which does not die. It leaves the body during sleep, and leaves it perhaps permanently, or it may be only at night, after death and burial. These spirits wander about at night, and there are many people here who tell me that they have seen them. After the decease of the body all the Urio are evil spirits, and all their doings are only malicious.

• "**Internationales Archiv für Ethnographie.**" (Trap, Leiden; Kegan Paul, Trench, Trübner & Co., London). It is probable that many members of the Anthropological Institute are not acquainted with the "**Internationales Archiv für Ethnographie**," which is now in its fourth year of publication. This notice is written in the hope that it will lead to the greater publicity and increased sale in Britain of this valuable journal.

Anthropologists have to thank the public-spirited publisher, Herr P. W. M. Trap of Leiden, for continuing to produce the journal at a personal loss. The Archiv is ably edited by Herr J. D. E. Schmeltz, Curator of the National Ethnographical Museum of Leiden, assisted by an international committee consisting of such well-known names as Dr. K. Bahnson, Copenhagen; Dr. F. Boas, Worcester, U.S.A.; Dr. G. J. Dozy, Noordwijk; Prof. H. H. Giglioli, Florence; Dr. E. T. Hamy, Paris; Prof. Dr. H. Kern, Leiden; Prof. Dr. E. Petri, Petersburg; Prof. Dr. G. Schlegel, Leiden; Dr. Hjalmar Stolpe, Stockholm; Dr. E. B. Tylor, Oxford.

Each volume, which consists of six serial parts, 4to, averages about 250 pages and 20 plates, mostly coloured, besides numerous woodcuts. The first two parts of the current volume, for example, contain 104 pages and 10 plates, of which seven are coloured. Each separate issue consists of (1) Original Communications; (2) News and Correspondence; (3) Questions and Answers; (4) Museums and Collections; (5) Bibliographical Review; (6) Reviews of Books and Papers; (7) Explorations and Explorers, Appointments, Necrology. The articles and notes are written in Dutch, German, French or English; the valuable bibliographical summary by Dr. Dozy is always in French. There are very few original communications in English, and the majority of these are written by Prof. Giglioli.

The "get up" of the Archiv is exceptionally good, and the illustrations are particularly excellent, the plates being drawn with accuracy and with artistic feeling.

The last volume contained a considerable proportion of papers dealing with American ethnology, the current volume "will probably contain articles of a more general character." As is to be expected, the Archiv deals more particularly with ethnographical specimens, but the editor is willing to make it quite representative in character. He also wishes to obtain the active co-operation of more English authors, being anxious to render the Archiv as truly international as possible. [A. C. H.]

"The American Antiquarian," vol. xiii, No. 2, contains a paper on "Some principles of evidence relating to the Antiquity of Man," by W. J. McGee. "The Alaskan natives of Fort Wrangel," by Egbert Guernsey, M.D. "The Story of Skaga Belus," by James Deans. "Although only a legend, it contains historical data enough to shed a gleam of light on the long-forgotten migration of the early inhabitants of North-western America." Mr. S. D. Peet contributes an important paper (illustrated) on "Altar Mounds and Ash Pits," describing more especially those in Southern Ohio.

"A Journal of American Ethnology and Archæology."
 Edited by J. W. Fewkes. Vol. i, 4to. (Houghton, Mifflin & Co., Boston.) The whole volume (pp. 132) is taken up with a paper

entitled, "A few summer ceremonials at Zūni Pueblo," New Mexico. The work is well illustrated, and contains much valuable information. The ruins in the Zūni reservation are carefully described.

"**The American Anthropologist**," vol. iv, No. 2, contains "The story of a Mound; or, the Shawnees in Pre-Columbian times," by Prof. Cyrus Thomas. (Illustrated.)

The author states that "it is not a single mound but a group of ancient works, consisting of several tumuli, a canal or large ditch, and two or three extensive excavations. This group, which is one of the most important and interesting in the Southern States, is located upon the right bank of the Etowah river, a few miles south of Cartersville, in Bartow County, Georgia." A full description of the thin copper plates ornamented with stamped figures is given.

"The Thruston Tablet," by W. H. Holmes (plate). "This slab was found on or near the surface of the ground on Rocky Creek, in Sumner County, Tennessee." . . . The delineations consist principally of human figures placed in a variety of attitudes, and comprise three or four groups more or less independent of each other.

"On Zemes from Santo Domingo," by J. Walter Fewkes (plates). The author considers them as the productions of the Caribs, but is not sure that another people may not have had a hand in their manufacture.

"Notes on some of the Laws, Customs, and Superstitions of Korea," by W. Woodville Rockhill.

"**Transactions of the Canadian Institute**," vol. i, part 2. The Rev. Father A. G. Morice, O.M.I., contributes a paper on "The Déné Languages," and recapitulates as follows:—(1.) The Déné languages agree with most American idioms through the polysynthetism which prevades all their composite words, and more especially their verbs. (2.) They also resemble the Turanian tongues on account of the monosyllabism of most of their roots, their confounding and agglutinative processes of word-building, the formation of their plural and of their amplificative and diminutive, their law of euphonic sequence of the vowels, their innumerable differentiating distinctions, the fundamental rule of their syntax, which requires that the governed word precede the governing, the postpositive character of their equivalents for our prepositions, the scarcity of their terms expressive of relation or conjunction, &c. (3.) We must likewise note the following features which they possess in common with the Semitic languages, the immutableness of their initial consonants as contrasted with their vowels, which are essentially transmutable through the various dialects, the nature of their affix article, the number of the modificative forms of their verbs, and the grammatical duality of such objects as are naturally twofold. (4.) Lastly, the pronominal

inflections of their verbs, their mode of forming the number "Nine," as well as the character of all the interrogative and of some possessive pronouns, in as many traits of affinity with the Aryan languages. Attention is also called to other important details.

"The Proceedings of the Royal Geographical Society," May, 1891, contains a description of an offering by a chief named Mlolo, residing on the southern frontier of Nyassa land, to the spirits of his ancestor, by John Buchanan, H.M. Acting Consul; also a description of the ruins in the Sundurban, by J. R. Rainey.

June, 1891, Mr. Charles Chewings gives details with regard to the expedition fitted out by Sir Thomas Elder, G.C.M.G., for the exploration of Central Australia.

"The Quarterly Journal of the Geological Society," May, 1891, contains a paper by Professor J. Prestwich, F.R.S., on the age, formation, and drift stages of the valley of the Darent; with remarks on the palæolithic implements of the district, and on the origin of its chalk escarpment.

"The Journal of the Society of Arts," No. 2,010, contains an article on "Armenia and its people," by Captain J. Buchan Telfer, R.N.

"Nature," March 5th, contains an exhaustive review of "The Darwinian Theory of the Origin of Species," by F. P. Pascoe, referred to in the last number of the Journal.

A letter from Darwin to the Duke of Argyll on the Unity of the Human Race.

A table of the Aino population in Yezo from 1872 to 1888.

March 19th.

A short note is given on Eskimo Art Work.

April 2nd contains a review of "Outlines of Mental Psychology" by G. Trumbull Ladd. Also "The Principles of Psychology" by William James.

April 9th contains a review of "On the Modification of Organisms," by David Syme.

"The Journal of the Royal Society of Antiquaries of Ireland," vol. i, No. 5 (5th series) has "A Contribution to Irish Anthropology," by W. Frazer, in which the measurements of a selection from 50 crania belonging to the 8th century, found at Donnybrook, are given.

"The Proceedings of the Society of Antiquaries of Scotland," vol. xii (N.S.) "Notes on a Finnish boat preserved in Edinburgh," by David Macritchie, F.S.A.Scot. "Examples of the survival in Scotland of superstitions relating to fire," by Rev. Alexander Stewart, LL.D.

"Notes (illustrated) of a collection of arrow and spear-heads, &c., from Alabama, United States recently presented to the

Museum," by G. F. Black. "Notes on the further excavations of Howmæ, 1889," by John Trail, F.S.A.Scot. (plates).

"**The Journal of the Ceylon Branch of the Royal Asiatic Society**," vol. x, No. 37, contains an article on the ancient industries of Ceylon, by Mr. George Wall.

"**The Journal of the Anthropological Society of Bombay**," vol. ii, part 2, contains a paper (with plate) on "The mouth lock vow," by Mr. F. Fawcett. The mouth lock is described as an instrument fashioned like a large safety pin, usually made of silver, and worn with the pin stuck through both cheeks between the teeth so as to keep the mouth open, and offered at a shrine in performance of a vow for some received benefit. Some thousands of these mouth locks, worn by devotees from all parts of India, but chiefly from about Mysore, the Cedia districts, and Hyderabad are given up at Tirupati, where so many Hindoos have their fair in the north-west district of the Madras Presidency.

No. 3 contains an important presidential address by Mr. Denzil Ibbetson, on the study of Anthropology in India. Also a paper by the Rev. A. W. Painter on the Hill Arrians living along the slopes of the Western Ghats in Travancore. A paper "On a few superstitions common to Europe and India," by Mr. Jivanji Jamshedji Modi.

No. 4 contains an account of "The Marathi Ballad, written on the Sutte of Ramabai, widow of Madhavras Peshwa," by Mr. H. A. Acworth (with plate). "Notes on the vernacular language of the Koukan," by Dr. J. Gerson da Cunha. "On the Household and Village Gods of the Maharashtra," by Mr. P. B. Joshi. "A note on the Pithora Worship among the Hindoos," by Dr. W. Dymock. "Note on a form of fire worship amongst the ancient Arabs," by Dr. W. Dymock.

"**Transactions of the Asiatic Society of Japan**," vol. xviii, part 2, "On race struggles in Corea," by E. H. Parker. This paper consists of two parts. The first part is a translation of the chapter in the Early Han Shu, which treats of Chao-sien. The Han Shu was written during the first century A.D., and treats here of the period B.C. 200 to about A.D. 1. The general results are these:—The Chinese have overrun Corea twice, once in the second century B.C., and once in the seventh century A.D. In both cases their direct rule was short, and their vice-regal rule never extended beyond the northern half of Corea, or for any time ever beyond the mountain range which divides the north part into east and west portions. The Japanese never set foot at all in that part of Corea just mentioned subject to immediate Chinese influence, except for a few months, during Hideyoshi's invasion, towards the end of the 16th century. The Japanese never ruled directly any part of Corea, but there is reason to believe that some of the Japanese race were still to be found indigenous in the extreme south of Corea as late as the early centuries of our

era. They never exercised any permanent influence upon the south-east part, but they were undoubtedly influential in the south-west part up to the second Chinese invasion, after which their influence, except as pirates, ceased, until Hideyoshi conceived the idea of attacking China through Korea."

"Modern Japanese Legal Institutions." By R. Masujima. The author states: "The history of Japan for the last 20 years has consisted of first, the destruction of the old; next, the wholesale adoption of foreign institutions, and lastly reactionary attempts to undo the work done. . . . The total result has not been satisfactory, and we are now beginning to suffer from it."

"Records of the Australian Museum." Vol. i, No. 1. Sydney, March, 1890. The publication is to take the form of an occasional periodical, to contain the results of original researches by the Staff. The following appears under the head of Ethnology:—"Mr. C. H. Roberts informs me that the neighbourhood of the Sassafras was at one time a great refuge ground for those aborigines who had offended against their own unwritten laws, especially those referring to the connubial state. The main offence was that of lubra stealing. Great enmity then existing between the Braidwood blacks and their neighbours, the Maneroo tribe. One of their customs appears to have been this:—Should the offending party be caught by the pursuing tribe, when travelling in company with the kidnapped gin, the guilty pair were simply brought back to their place of departure, and the male was then forced to undergo the ordeal of spear throwing. This consisted in having one hundred spears cast at him, when stationary, by five men, as fast as possible, when the dexterity displayed by the culprit in avoiding them is said to have been marvellous. Should the man succeed in escaping without fatal injury, the matter was considered as settled, honour satisfied, and the woman was allowed to remain with him as his wife. On the other hand, should the runaways be found cohabitating at the haven of refuge, dire vengeance was at once administered, the man killed, and his body disposed of in the manner we found the object of our search at the Sassafras. Mr. Roberts states that from some superstitious custom the legs were severed at the knee; but in this particular case it had not been done. Instead, the femora had been cleanly divided high up on the body of the bones, and then the legs doubled up on the trunk, following a post-mortem method of preparation customary with several tribes of the aborigines. The right femor, however, had been divided by a direct oblique clean cut, about the commencement of the body, and the left tibia had been smashed by a direct heavy blow with a blunt instrument just above the lower end of the body of the bone; and the injury presents the appearance of having been done previous to death."